



AN
INQUIRY
INTO THE
NATURE, CAUSE, AND CURE
OF THE
GOUT,
AND OF
SOME OF THE DISEASES WITH WHICH IT IS
CONNECTED.

BY JOHN GARDINER, M. D.
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS,
AND FELLOW OF THE ROYAL SOCIETY
OF EDINBURGH, &c.

*Si a podagra liberari cupis, ut pauper sis oportet, ut aut pauper
vivas.—PETRARCH.*

PHILADELPHIA.

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P R E F A C E.

AMONG the chronic diseases which afflict mankind, none deserves more a serious investigation than the Gout. When we consider the prevalence of this disease in all ages, its severity, the great variety of complaints, some of them of an alarming nature, which attend its irregular forms, it is somewhat extraordinary, that professional men of genius have not, with sufficient ardour, endeavoured to explain the true nature and cause of this distemper. For, from the time of Galen to this day, I cannot discover that any advancement has been made, either in our knowledge of this disease, or in the plan of cure. The ancients, who have given accurate descriptions of this disorder, appear to have known the remote causes; but of the immediate cause of a fit of the gout, and how various symptoms were produced, from the action of the arthritic matter on the system, they were igno-

rant. Their method of cure was of course empirical, and so it continues to this day, notwithstanding the many advantages of the moderns in their superior knowledge in anatomy and physiology.

If the human body could be subjected to such decisive experiments, as have so wonderfully improved our knowledge in natural philosophy, during this century, then the causes of internal diseases might be investigated with ease and certainty. But, as such tests are, from the nature of the human frame, impossible, we are obliged, at the commencement of every disorder, to confine ourselves to the observation of such appearances, and complaints, as from experience point out the nature of the disease. In this way we give names to diseases, and, when ignorant of the original cause, the method of cure must be empirical. In such cases, the modern physician is indebted for his success in the cure, to the experience of his predecessors, as well as to his own, and

that of his contemporaries. With such helps, it is admirable to perceive with what ease and art the physician of experience conducts the cure of the disorder, when he is acquainted with the nature of the symptoms, though he knows not the cause which originally produced them. On many occasions, physicians proceed in this manner, with success, judging as well as they can of the invisible cause, from its visible effects in the course of the disorder. But, when we are so fortunate as to trace the cause, we become then more dogmatical and regular in our practice. For, from a more intimate acquaintance with the nature of the disease, our medicines and applications are better suited to counteract its progress, or to favour the expulsion of the morbid matter.

But the existence of a morbid matter is denied by several medical writers, who derive every disorder from a defect or morbid affection of the solids; while others allege, with equal probability, that the fluids are primarily affected in

every disease. These two opinions have been litigated with great ingenuity, but with too much keenness to produce a fair representation of facts; for neither of them are strictly true. But, from the following short review of the subject, I humbly apprehend they may be reconciled. To examine the theories on either side, would lead to a prolixity inconsistent with the brevity of a preface; I shall therefore content myself with a short appeal to the diseases themselves, and to such facts as I imagine will be generally allowed.

Those who maintain the solids to be originally affected, in the production of every internal disorder, ascribe to an original defect in the system, all the variety of scrophula we meet with in practice. This disorder, with all its consequences, as glandular swellings, suppurations, diseases in the bones in various parts of the body, consumptions, withered limbs, fits of insanity, &c. are said to originate from debility alone. But it seems equally probable, that the debility ac-

companying certain species of the scrophula, is rather an effect of the general disorder in the system from the scrophulous acrimony, than the *cause* of it. Because we not only meet with considerable degrees of debility, and of long continuance, without discerning the smallest tendency to scrophula; but find persons affected with that disease, who are endowed with a considerable degree of bodily strength. For it is not until the disorder has made some remarkable advancement in the habit, or that some of the viscera are thereby affected, that great debility takes place. But, whatever is the original cause of this disease, an acrimony of a peculiar nature is generated in the fluids, which produces indolent swellings, inflammations, and suppurations; from which arise those sores, acting as so many drains of that vitiated humour, which, if retained in the habit, would prove fatal. In slight cases, therefore, of the scrophula, issues have been found to be of great service; but where the disorder is of great mag-

nitude, they are insufficient for the necessary discharge of the scrophulous acrimony.

It is certain, that by a proper regulation of the diet of scrophulous persons, in which a due proportion of meat and wine should be allowed, sea bathing, a moderate use of sea water, to prevent crudities in the bowels, exercise, and other means of corroborating the habit, have been of service in some scrophulous disorders. It is likewise known, that in this disease, the fores often dry up towards puberty, when the system has acquired a greater degree of strength than it formerly enjoyed; nay, the same persons, from their strength being reduced by other diseases, or by old age, get a return of their scrophulous complaints. Besides, as we have not hitherto discovered any effectual remedy in the cure of this disease, which acts chiefly on the fluids; these observations seem to favour the idea of a defect in the solids being the original cause of this disease. Any attempt to invalidate these

presumptive proofs would be improper ; they are facts known, and ought therefore to be admitted in support of the above opinion.

That such a defect may produce this, and other chronic diseases, I shall not dispute, but the word *debility* gives no distinct idea of the true nature of that defect. This may be different in different diseases, and always producing an acrimony peculiar to the nature of the cause ; for every considerable deviation in the action of the solids, from that which is peculiar to a healthy state, will produce an acrimony in the fluids, corresponding to the manner in which the solids have been affected ; and this variety of acrimony or disease, cannot be supposed to arise from debility, which is as much a consequence of the morbid affection of the solids as the acrimony itself.

The scrophula being hereditary in some families for several generations, has been adduced as an argument for this disease being derived from some defect

in the solids. I shall not dispute this point; though perhaps it would be difficult to ascertain which of the two, the solids or fluids, is in fault on such occasions. To the idea of its being hereditary there are some exceptions; because we see it arise from other diseases, in persons where the distemper could not be traced to any of their progenitors, while the other children of the same family kept perfectly free from that disorder. The word *hereditary* gives a most discouraging prospect to those families, where the scrophula has subsisted for two or three generations; but I have reason to believe, and from experience can assert, that, where a proper regard is paid to the health and constitution of the persons, these unfortunate people take in marriage, the disorder gradually disappears in their children and grand-children. The same may be said of the gout, and some other diseases, which are thought to be derived from parents. There are other diseases, in which an affection of the solids, seems to be

more unequivocally the original cause of the subsequent disorders; as in the application of cold to the body, in the production of rheums in the head, creeks in the neck, a catarrh, rheumatism, and other inflammatory disorders.

Those who adopt a contrary opinion, and derive every disease from some change in the fluids, adduce as an argument in their favour, that, from the nature of animal life, some small portion of our fluids is continually becoming unfit for circulation, or the salutary purposes of the economy. This in general goes on without any injury to health, because nature has provided certain emunctories, by which such acrid or useless fluids, are thrown out of the body. It is, however, evident, that this balance between the generation, and elimination of acrid fluids, may be sometimes disturbed, and an acrimony thereby prevail in the habit. This may be increased by the application of an excess of heat, or of cold to

the body, and by violent exercise under a warm sun, in all which cases, the solids appear to be first affected; or it may be occasioned by unwholesome diet, by which the fluids are primarily affected. In treating of infection *, I have endeavoured to prove, that its action, in the production of fevers, is first on the fluids. But it must be remarked, that an acrimony is no sooner generated, than its action on the solids is perceived, and particularly on the vascular system. This increased action of the vessels, may not only accelerate the change in our fluids, introduced by the febrile ferment, but may produce other changes, peculiar to an increased action of the vessels, and different from the original acrimony which occasioned the fever; and this acrimony will, in its turn act on the solids. These remarks are made, not only to show that some diseases may arise from a morbid affection of the solids, and that others derive their origin from certain morbid changes in

* Vide my observations on the Animal Economy, &c. sect. 4.

the fluids, but that no permanent affection of the solids, or considerable change in the fluids, can take place, without their mutually affecting each other.

This is only a short review of the subject, which might be extended to greater length ; but is sufficient to show the reciprocal action of the solids and fluids. This takes place even in health, and is the chief cause of those wonderful changes which gradually take place in the crude nutritive juices, taken up by the absorbents of the *primae viae*, till they are elaborated into the nature of the other circulating fluids. But it is their effects on each other, when in a diseased state, we are at present to consider, which we shall have some opportunities of recognizing in the following treatise on the Gout. I am sensible of the intricacy of this subject, and of my inability to clear it from the great obscurity in which it is involved. If, however, I shall be so fortunate as to remove some part of this obscurity, and give a

more distinct idea of the true nature and cause of this distemper, our practice in the cure will then become more regular, and less uncertain, than formerly.

This point I have prosecuted with ardour, chiefly from a strict observance of the gout under its various forms, and in a great variety of cases. I have likewise received advantage from a close attention to the operation of medicines, and applications that have been used in the cure with good and bad success. The remote causes, their effects on the body, the generation of the arthritic matter, the proximate cause of a fit of the gout, and the other remarkable phenomena in the course of this distemper, have been considered with great care. Some of these particulars I have viewed in the light of experiments ; for by examining them with attention, they have led me to what I apprehend to be the true nature of this disease, and in some instances have shown the manner by which the arthritic matter acts on the system in exciting particular symptoms.

My explanations of these, and many other circumstances relative to the gout, are not the best that might be given, were the subject in abler hands, but they are the best I can, at present, offer to the public. The same may be said of the whole of the following treatise, though written with the best intention, to introduce a more regular practice, and to take the unhappy sufferers out of the hands of ignorant empirics and quacks, to whom they have been for the most part consigned, to the great reproach of the medical art.

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AN
INQUIRY
INTO THE
NATURE, CAUSE, AND CURE
OF THE
GOUT.

SECTION I.

1. **I**F, in the following treatise, I shall endeavour to investigate the nature and cause of the gout, a subject which has hitherto eluded the inquiries of many learned and ingenious men, great allowance ought to be made for the imperfections and inac-

curacies of a person of moderate abilities. The remote causes of this disease appear to have been long known; but their effects on the system have not been explained; nor is the constitution most susceptible of the regular gout strictly ascertained. The immediate cause of a fit of the gout is involved in great obscurity; and we are ignorant of the manner by which those symptoms which precede a paroxysm, or accompany the convalescent state of that disorder, are excited. The regular returns of the paroxysms, nearly at stated intervals in the regular gout, is a curious circumstance in the disease, and deserves to be particularly considered. We do not rightly understand how, in different constitutions, such a variety of complaints should arise from the same cause, as in the irregular gout, and some of the diseases strictly connected with that distemper. The manner in which occasional causes act in producing the gout, is not fully explained by authors, and we comprehend not precisely the nature of the atonic gout. The arthritic matter uniformly affecting the joints is a singular circumstance, and merits our consideration. The inflammation of a particular part of the body is a common occurrence in inflammatory and febrile disorders,

as well as in a fit of the gout. The immediate cause, however, of inflammation seems hitherto to have eluded the observation of authors on that subject.

2. But these are not the only difficulties we have to encounter. There are others equally important, and some of them equally obscure, which deserve our attention. The task here is arduous; and I doubt whether it shall be in my power to satisfy my readers in explaining these several particulars; but the difficulty of the subject ought to claim some indulgence, if my inquiries shall fall short of their expectations. I am likewise afraid, that, in a subject so intricate, where our attention must be drawn to so great a variety of circumstances, it will be difficult to preserve that regularity of plan which might be observed in treating of a disorder of greater simplicity.

3. As the history of the gout, under its various forms, is fully and accurately given by practical authors, who have in general followed Sydenham, it is needless to be tediously particular in the description of a disorder so well known. This is the less necessary, as I shall, in the following dissertation, have occasion to take notice of the most remarkable symptoms that attend both the re-

gular and irregular gout, in my endeavours to explain what I apprehend to be the true nature of that distemper.

4. From practical authors and general observation, we learn, that the gout is more a disease of cold, than of warm climates, of the winter, than of the summer months. Its attacks are from about Christmas to March, or on the approach of the cold weather in autumn, which are the usual periods of those who are afflicted twice a-year with that distemper. How far the cold of the climate, or of, the season, may contribute to the production of fits of the gout, shall be hereafter considered. When the disease is not hereditary, the principal remote causes are usually ascribed to intemperance, a full diet, and a sedentary life. However, we often meet with persons afflicted with that disorder, who cannot be strictly accused of intemperance; but, upon a review of their manner of living, on a full diet, with a regular, though moderate, quantity of strong liquors twice a-day, and a sedentary life, it falls little short of the general charge brought against gouty persons.

5. But the remote causes of this disease act not with the same force in all; for their effects are more severely felt in some than in

others ; and there are several who have escaped the disorder, notwithstanding their having exposed themselves for many years to the action of the remote causes of the acquired gout. Hence a probability arises, that the generation of the arthritic acrimony in our fluids depends in some degree on a peculiarity of constitution.

6. The remote causes just mentioned, apply not always to the hereditary gout ; for we have some instances of it, notwithstanding great attention to exercise and temperance. This hereditary disorder may arise from a peculiarity in the structure of the body ; and, as children often inherit not only the figure and features, but dispositions of their parents, so a propensity to the pleasures of the table and indolence may, in some degree, be the result of such a conformation. It may likewise be remarked, that, from the influence of example, an inclination to this practice is apt to be acquired by the children of those who have been addicted to it. Although I have, in many instances, observed such a propensity in persons affected with what was supposed to be the hereditary gout, yet I do not give it as a general consequence of a such a conformation, but mention it merely as a conjecture. However, in such constitutions, these causes

always act with double force in the production of this disease.

7. There are many other causes enumerated by authors, but when carefully examined, they seem rather to be exciting, or occasional, than remote causes of this disorder. These are whatever produce debility, and its concomitant a preternatural irritability of the system. Long and intense study or application to business, particularly in the night, excess in venery, purging and other evacuations, violent exercise long continued, especially walking any considerable way with short, or tight shoes *, catching cold, and the application of cold to the feet, weak claret, other subacid weak wines, such fruits and vegetables as are apt to ferment and become acid in the stomach, debilitate the digestive organs, and render the whole system more irritable than usual. Indigestion, to which gouty constitutions are extremely liable, and a collection of bile from costiveness, have nearly the same effects.

8. Men of genius, in the habit of prosecuting their studies during the night, are

* This I have frequently known to bring on the first fit of the gout, about the third day after, with considerable redness, similar to an erysipelatous inflammation.

said to be more than usually subject to this disease; and, I believe, it may be so, when, from their easy circumstances, they keep a plentiful table. But the possession of genius can have no other concern than as it often leads to a sedentary life, which, when accompanied with a full diet, may have the same effects on men of genius, in producing the gout, that they are known frequently to have on others of the meanest capacities.

9. It is also remarked by practical writers, that full and corpulent habits are particularly obnoxious to this disease. Corpulency, in many persons, depends on a peculiarity of constitution, and while they continue temperate and active, are seldom afflicted with the gout. But it oftener arises from a full diet and indolence. In some degree corpulency precedes the first fits of this disorder, and increases with the age of the person, and advancement of the disease, which gradually brings on an inability to proper exercise, from weakness and stiffness in the joints of the lower extremities. Nor is it at all surprising that, from so nutritive a diet, and a want of due exercise, such persons should become plethoric and corpulent, which increase their dislike to action, and, in some degree, render them unfit for proper exercise. This is more or less the

situation of gouty persons in general ; but obesity seems not essential to the gout, because we every day meet with this disorder in persons no way inclined to corpulency, and in others of remarkably thin and spare habits.

10. It is likewise alleged, with more appearance of truth, that men with large bodies and robust constitutions, are particularly liable to this distemper. Such are, undoubtedly, the constitutions in which we most frequently meet with the regular gout ; but it is not the strength of the system alone, as will appear more fully in the sequel, that produces this disease. The remote causes must act for some time on the digestive organs, and on the system in general, before the arthritic acrimony, which we suppose to be the immediate cause of the gout, can be generated in the body ; and the stronger the constitution the greater will be the powers exerted in the system to overcome this acrimony, or to throw it off by the usual emunctories ; and of course the strongest may escape the disorder altogether, or have it in a milder way than those of less robust habits, even when they have been equally exposed to the remote causes *. For it must

* A gentleman, 32 years of age, inclining to a full habit, and of a good constitution, was, in the year 1762, seized with a very severe, but regular, fit of the

be observed that private soldiers in the army, common sailors, and those who earn their bread by constant labour, and keep temperate, are seldom, if ever, seized with the gout.

II. These circumstances, and others I shall have occasion to consider in the following treatise, as they sometimes occur in gouty habits, have created a general belief of their being intimately connected with the cause of the gout. But while these ill grounded suppositions maintain their credit, they have a tendency to obstruct our inquiries into the true nature and cause of this distemper. Another difficulty in the regular investigation of the cause of the gout, arises from the various appearances of this disease in different persons, in the same person at different times, and from the great variety and discrepancy of its symptoms, especially in

gout in both feet. For some days, during the severity of the paroxysm, he had a remarkably free and copious perspiration; it was several weeks before he could walk across his room, when his feet and ankles became oedematous, with great weakness in both legs. After his recovery he observed not any particular regimen of diet, living much in his usual way; but, from the strength of his constitution, and using a good deal of exercise, he has not had a second fit of the gout, and is now in perfect health.

the irregular gout. From the different appearances of this disorder in its irregular state, authors have reasoned so differently on the nature of this distemper, that we are at this day in great doubt with regard to its origin. Notwithstanding this diversity of opinion, there is nothing more general than a belief in the remote causes of the acquired gout, as above enumerated. It is therefore surprising, and much to be regretted, that men of abilities, in treating of this disorder, have not prosecuted with sufficient ardour the effects of these remote causes on the constitution.

12. A certain quantity of food and drink is necessary for the support and nourishment of the body; but nature allows a considerable latitude with impunity. Men, as well as other animals, require a quantity of aliment proportioned to their bodily labour. Any considerable diminution or augmentation of that necessary quantity, long continued, will tend to the production of disease, according to the nature and magnitude of the cause. In the active time of youth, when the exercise of the body is greater, and the digestive powers are stronger, than at any other period, a little indulgence in more food than is requisite for the maintenance of health, is not in general followed

by any bad consequence: For it is not till some time after, when men begin to lose their agility and ease in their motions, and incline more to a sedentary life, that a plumpness, and sometimes even corpulency, gradually steals on them.

13. The alteration of the general appearances with more or less increase of bulk in the body, which insensibly take place in men from their twenty sixth to their fortieth year, is well known. About this period the body has acquired that firmness of texture, which gives more the idea of strength than agility. Some time previous to this, men in general begin to discover a greater propensity to sedentary amusements and avocations than formerly, and this disposition increases by degrees, as age advances. But when the constitution is tolerably good, and the sedentary life not carried to excess, men after this period commonly enjoy good health for many years, although their diet be rather full than otherwise, and especially if they indulge not in strong liquors. For while the organs of digestion continue completely to perform their office, no harm is to be apprehended from the sedentary life and full diet, unless becoming a little fatter than usual should, in some cases, be thought an inconvenience.

14. However, when the exercise of the body corresponds not to the quantity of aliment taken, disorders in the primae viae will sometimes occur, even in the strongest constitutions, especially if, at the same time, they indulge in strong liquors, with a view to help their digestion; which, for the most part, has a contrary effect. These complaints are at first easily removed by medicine, temperance, and exercise; for, as no material injury is done to the stomach and bowels, they soon return to their former healthy state. But, from the frequent recurrence of these disorders, the stomach and bowels become weaker, more irritable than formerly, and the digestive powers decline. It is only from this period, in constitutions most liable to the regular gout, that we can suppose an acrimony to be slowly generated in our fluids, from the function of digestion being incompletely performed. In most instances, this arises, not so much from any natural defect in the digestive organs, as from a long continued habit of taking a quantity of food, and strong liquors, disproportioned to their powers, or to the exercise of the body. For the same persons, or others of a similar constitution, who take less food, and more exercise, are seldom, if ever, afflicted with the

gout, unless a strong hereditary disposition to that distemper prevails in the constitution.

15. Persons more delicate, and with greater irritability of system, are, from the same causes, affected with want of appetite, indigestion, heart-burn from acidity in the stomach, flatulency, general debility, low spirits, and, in a variety of cases, almost the whole train of nervous, hypochondriac, and hysteric symptoms. For a general debility, proceeding from a diseased state of the stomach and bowels, tends greatly to the production of nervous disorders. Such complaints are common to men and women of delicate constitutions; but, on account of this delicacy of system, they are seldom seized with fits of the gout: For although the remote causes of this disorder may be numbered amongst those of nervous diseases, yet, when they produce in delicate habits such effects as are just mentioned, the appetite fails, and they are afflicted with indigestion, which are in a great degree inconsistent with the generation of that species of acrimony in our fluids, supposed to be the cause of the gout.

16. I know not how it may have happened to others, but in my younger days I was often led away from the consideration

of the true cause of nervous, hypochondriac, and hysteric disorders, by the delicate appearance of my patients. I did not suspect persons who had become thinner than usual, complaining of acidity in the stomach, want of appetite, and indigestion, to have brought on their complaints by too full a diet. This deception continued for some time, from the sick complaining that they could neither eat nor digest the lightest food. No doubt this was the case, in a great degree, with several of them, who, from the great irritability of their stomach, could not bear such a moderate quantity of aliment as could have been easily taken in a more healthy state. Upon a strict inquiry, however, there were some who, notwithstanding of their taking but a small quantity of food at once, yet, upon their repeating it frequently, the quantity was little less than should be taken by a person in health, and more than they could digest in the weak state of their stomach and bowels. But there are others whose appetites are in general too keen for their powers of digestion, and such persons often bring on themselves, by a full diet, great disorders in the primae viae, which produce an uncommon sensibility on the nerves of these viscera, and subject them for some time to a variety of nervous complaints.

17. When valetudinarians of the above description cannot take, or suppose they cannot take, a sufficient quantity of aliment for their support, recourse is had to small quantities of strong liquors after meals, to supply that deficiency. The exhilarating qualities of these liquors deceive them into a belief of their giving strength and firmness to the body; but these effects are only temporary, and in the end tend rather to exhaust than raise the spirits, from the excitement they occasion. In some few cases a small quantity of wine, or mild malt liquor, may be taken with advantage; but they ought never to take both at the same time, because such a mixture, in weak stomachs, is apt to disturb the digestion, and to hurry on the acid fermentation. Those who have naturally great appetites, in some cases, owing to an uncommon sensibility of the nerves of the stomach, are often seized with cholics, vomiting, and purging; and when, from a mistaken notion of assisting the digestion, they fall into the habit of drinking strong liquors, this never fails in time to impair the constitution, and increase the number of their complaints. These patients have in general such large secretions of phlegm in the primae viae, that we are often obliged to have recourse to gentle

emetics and laxatives, before we can, in the intervals, with corroborants, a proper regulation of their diet and exercise, bring their stomach and bowels to their former healthy state. In most of such cases, the cure is more speedy and complete when water alone is their beverage; for wine and other vinous liquors should never be given but as a cordial.

18. Those of a firmer habit, who indulge in a full diet and sedentary life, suffer not so much from nervous symptoms, as the above delicate class of people. Their complaints are nearly of the same kind; but, from the greater strength of their stomach and bowels, are not so numerous, so violent, or so permanent, as in the more delicate men and women. Between the attacks of their disorders, they at times enjoy a tolerable state of health, complaining only of pains similar to those of the rheumatic kind in different parts of their body, and sometimes they are seized with slight fits of the gout, with an alleviation of their other complaints for a short time. For the intervals of ease and freedom from complaints are neither so long nor so complete as in those who, from the greater strength of their constitution and digestive organs, have regular fits of the gout; and of course,

they suffer more from the more frequent returns of their complaints.

19. These disorders, which are so various, according to the greater or less delicacy of the body, and sometimes from a peculiarity of constitution, differ likewise in degree, in proportion as the remote causes have acted with more or less force on the nerves of the *primae viae*, and of the system in general. But in such cases, the digestion being incomplete, and the assimilation of the chyle into the nature of our fluids imperfect, I suspect an acrimony, generated in the blood, to be the principal cause of those pains, which so often shift from one part of the body to another, and they may sometimes arise from sympathy with the nerves of other parts, but oftener with those of the stomach and bowels. This supposition of an acrimony generated in the body, is supported by practical observations, which show that, by inflammations, suppurations, and eruptions on the skin, nervous and hypochondriac disorders have been alleviated, and sometimes suspended for a time.

20. The bad consequences sometimes arising from the drying up of setons, issues, old sores, the stoppage of the hemorrhoidal flux, or other accustomed evacuations, and the salutary effects that follow the renewal

or return of them, are generally known, and satisfy most persons that something noxious to the system was thereby thrown off from the circulating fluids. Practical authors are so full and satisfactory on this subject, and especially my late learned friend Dr. Whyte, in his ingenious treatise on nervous diseases, that I judge it unnecessary to add such similar observations as have so frequently occurred to me in practice.

21. But there are other proofs that have struck me more, and so evident, though not so generally attended to, of an acrimony in the blood being the cause of pains in the stomach and bowels, sickness, asthma, headaches, pains shifting from one part of the body to another, mania, and other morbid affections of the brain and nerves, that I have not the least doubt as to the fact. These are, periodical attacks of an erysipelatous inflammation, for the most part in the legs of men and women after forty years of age, seemingly, in other respects of a healthy constitution, but who had lived full and much at their ease, from an indolent disposition. In many instances, these inflammations return in eighteen months, or two years, sometimes sooner, at other times the interval is longer; but in the same per-

son, the attacks are nearly as regular as fits of the gout in others, and seem to be equally salutary in freeing them from a variety of irregular complaints.

22. In a practice of many years, I have met with such a number of cases of this kind, that I doubt not of their having likewise occurred to others, though I do not recollect any author who has remarked those periodical returns of erysipelatous inflammations, being so similar to fits of the gout. How far I have been in the right, must be submitted to the judgment of others; but, in some cases, I have suspected a great affinity between this species of erysipelatous inflammation and that brought on by a fit of the gout, especially in the first fit of this disorder, occasioned by a long walk with short or tight shoes; in some of which I have known the gouty inflammation to extend from the ball of the great toe, over most part of the leg, which were evidently of the nature of an erysipelas.

23. The acrimony generated in the blood in those diseased states of the body, though probably of the same nature in all persons, yet may differ in degree, or even in its qualities, and may approach more or less to that species of acrimony which produces fits of the gout, according to the greater or

less degree of power in the digestive organs, and other circumstances. The great diversity of complaints arises, not solely, however, from a difference in this species of acrimony; much depends, sometimes, on a peculiarity of constitution; at other times, on the greater or less irritability of the nerves; but more still on the powers of the system to throw off such noxious fluids by the usual emunctories, or by some critical external inflammation.

24. Dr. Whyte appears to have had the same ideas with regard to the above circumstances producing that variety of complaints we meet with in hypochondriac and hysteric patients. 'From what has been said,' he remarks, 'it may appear, that the morbid matter in the blood, either arthritic, or of another kind, may be often the cause of nervous complaints. It is to be observed, however, that the kind and violence of the symptoms occasioned by this morbid matter, will not only be different according to the parts which it affects, but in proportion to the greater or less delicacy or sensibility of the patient's nerves. Hence it seems to be, that men of other-wise hale and strong constitutions, and some robust women, are liable to a regular gout, but little to nervous complaints.

‘ Their firmer fibres and less delicate nerves
‘ do not predispose them to the latter, and
‘ the strength of their digestive organs and
‘ vascular system enables them to throw
‘ off the arthritic acrimony on the extremi-
‘ ties, by which means the body is cleared
‘ of it. Men of a middling constitution,
‘ between the delicate and the strong, are,
‘ from this morbid matter, affected with
‘ pains of the cold rheumatic kind and va-
‘ rious nervous symptoms, in a less degree;
‘ and sometimes also with a fit of the true
‘ gout. But in them this distemper is not
‘ commonly so completely formed, as to
‘ clear the habit of the arthritic matter, at
‘ least for any considerable time; for, soon
‘ after the imperfect fit of the gout, their
‘ old complaints begin to return. On the
‘ other hand, women of a more delicate
‘ habit, and men of weak fibres and more
‘ sensible nerves, have more rarely any dis-
‘ order like the true gout; either because in
‘ such constitutions the arthritic acrimony is
‘ imperfectly formed, or, what is more pro-
‘ bable, because the vital organs are unable
‘ to throw it off on the joints and extremi-
‘ ties *.’ After this general view of the ef-
‘ fects of the remote causes of the gout on

* Whyte on nervous, hypochondriac, and hysteric disorders. Edin. 1765, page 162.

delicate habits, and on those of a middling constitution, or who, in point of strength, hold a place between the delicate and those approaching to the robust habit, we shall proceed to consider the consequences of their long continued action on this last class of people.

25. It has already been observed, (par. 10.) that men and women of robust constitutions, with strong powers of digestion, while they continue temperate and active, are seldom, if ever, seized with the gout. It is this strength of constitution that enables them to bear with impunity such degrees of intemperance as would subject others, with less firm fibres, to various complaints, and to the gout itself. But when such persons come to be long exposed to the continued action of the remote causes of this disease, their powers of digestion become less complete, and their system in general suffers some diminution of its former strength. This diminution of the digestive powers, and of the strength of the body, is however so slow and gradual, as scarcely to be perceived by the person so exposed for a considerable time. This freedom from complaints, and the pleasure such people enjoy in convivial societies, are a great encouragement to the continuance of that mode

of living from which they receive so much enjoyment, until disease gives the alarm, and brings them to a more temperate way of living.

26. But the effect of intemperance is not always the gout; in many instances, want of appetite, great disorders in the stomach and bowels, visceral obstructions, especially in the liver, consumptions, dropsies, and other chronic diseases, and sometimes inflammatory fevers, are often the consequences of such irregularities. For it is not those who have persevered in a steady course of intemperance that are most subject to the regular gout; with such persons the functions of the digestive organs are much injured, which is incompatible with the production of that distemper, but is often the cause of chronic diseases, and sometimes of the irregular gout. It is persons, with strong constitutions and good appetites, that have not materially hurt their digestive organs by intemperance, but who, from a full diet, a regular though moderate quantity of strong liquors twice a-day, and now and then, from the pleasure they receive in cheerful society, an accidental indulgence in strong liquors, with a sedentary life, that are most liable to the true gout.

27. Men who are remarkable for the

strength of their constitution, have been known to continue in such a life of indulgence for many years, without having their health materially hurt : For though their digestion, and the assimilation of the chyle, be on some occasions incomplete, and of course some degree of acrimony introduced into the blood, yet such is the strength of their fibres and force of their circulation, as to free them of it in a short time, by the excretory vessels of the skin and other natural emunctories of acrimonious fluids. But as age advances, sometimes with a degree of corpulence, their activity fails, and the secretion by the skin, the most natural outlet for this species of acrimony, lessens. Such persons commonly retain a keen appetite, and have apparently a good digestion; but in process of time they begin to complain of wind in the stomach, sickness, slight cholic pains, cramps in the legs and thighs, and other symptoms of indigestion and disorder in the *primae viae*. This shows at least a temporary diminution of the powers of digestion; and some slight pains shifting from one part of the body to another, indicate an accumulation of the above acrimony in the blood. This affects the body variously in different persons for some time, till it is at last, by the strength of the system and

force of the circulation, thrown upon the membranes and ligaments of some joint; most commonly in the first fits of the gout, on the first joint or ball of the great toe.

28. The generation of the arthritic acrimony in the blood is so very gradual, as scarcely to be perceived until it accumulates to such a quantity as is necessary for the production of a paroxysm, or is so altered by the internal powers of the animal body, as to fit it to be thrown out in a critical inflammation on some particular joint. We suppose this acrimony to arise from some deficiency in the digestive powers, or from the too great quantity, or acrid quality, of the chyle to be assimilated into the nature of our fluids, by the force of the circulation, and other functions in the animal body. Although, from the long intervals between the paroxysms of this disease, the accumulation of the arthritic matter must be extremely slow; yet we see that it may exist for a considerable time in the habit, without affecting materially the system. The length of these intervals will be in proportion to the strength of the constitution, digestive powers, and to the force with which the remote causes have acted on the body during that interval; so that it may be protracted to one, two, three, or more years.

But when, from repeated fits of the gout, the strength of the constitution, begins to decline, the intervals become shorter, till at last the fits return twice a-year, commonly in the spring and autumn; and persons so afflicted are, during those short intervals, seldom free from some arthritic complaints, except in the summer months.

29. We are not however to suppose, that the accumulation of any species of acrimony will be in proportion to the generation of it in the habit. For nature is throughout life constantly employed in throwing off from the blood, by the skin, kidneys, intestines, and lungs*, not only such fluids as have become acrid, by their long retention in the body, but likewise those which have been introduced into the circulation by the lacteals and other absorbents, or are generated in our fluids in certain diseased states of the body. But when the balance between the generation and elimination of these noxious fluids is disturbed, an acrimony in the blood will be thereby accumulated. This may happen without the system

* We know that as constantly as the vital principle is absorbed from the air in respiration, for the maintenance of the vital motions, a noxious fluid is separated from the blood, which, if retained, would prove hurtful to the system.

being sensibly injured by it ; because nature confines not herself in the quantity of perspiration, in the secretions of the kidneys or intestines, to a mathematical exactness ; for in these respects she is variable, according to the diet, drink, temperature of the air, and other circumstances. It is only when these functions are considerably impeded, or disturbed, that the system is remarkably affected by the accumulation of acrid fluids. By the abolition of any one of these functions no doubt life could exist only for a short space ; but, by the regular performance of them, health is preserved, and those diseases which arise from an acrimony are greatly alleviated. It is of course an evacuation of the arthritic matter, by these emunctories, and especially by perspiration kept up by exercise, which protracts the intervals between the fits of the gout.

30. Although it is a question with me, whether or not the full habit of gouty people in general, may not, in some degree, be owing to their perspiration not being in proportion to their food and drink ; yet the following observations incline me to believe, that a diminution of perspiration is partly the cause of the accumulation of the arthritic acrimony in the body. 1st, The beneficial effects which arise in gouty habits from

a vigorous perspiration, kept up by exercise, and, in some cases, by warm bathing.

2*d*, Between the intervals of the fits of the gout, there is in general a free and copious perspiration by the feet; the stoppage of this evacuation is usually followed by disorders in the body, and often by a paroxysm.

3*d*, This is in general a disease of cold weather, and of cold climates. 4*th*, This supposition is corroborated by the observation, that men who are remarkable for a copious perspiration, tho' they live freely, are seldom afflicted with this disease.

31. Though the usual period of the first fit of the gout is about the fortieth year, yet there are instances of regular paroxysms of this disease before twenty years of age. The earlier the first attack of this disease takes place, the longer in general is the interval between the first and second fits, this being commonly from three to seven years, and sometimes to double of this last period. But in most of those cases, after two or three regular paroxysms, the intervals shorten considerably; so that, by the fortieth year, the fits return usually every two years or eighteen months, and sometimes annually.

32. In the hereditary gout, which is commonly the case in early attacks of this disorder, and in those who have not guard-

ed sufficiently against the accumulation of the arthritic matter by temperance and exercise, the intervals still continue to shorten; so that, by their fiftieth year, the paroxysms in many persons return every six months. By this time, from the frequent attacks of this disease, a stiffness and weakness in the feet, ancles, knees, and other joints, render them incapable of much exercise, and in this unhappy situation they continue for some years; but the atonic gout takes place in them much sooner than in those where the intervals between the fits have been longer.

33. The atonic gout succeeding to that severe state of the disease just mentioned, brings with it great disorders in the stomach and bowels, such as sickness, nausea, vomiting, and flatulency. But as the system in general is more or less affected by the retention of the arthritic matter in the habit, they become subject to a variety of other complaints, namely, headaches, asthma, faintings, palpitations of the heart, fits of the gravel, a concomitant of the advanced state of the gout*, general weakness of the bo-

* When persons afflicted with the gout are attacked with gravelish complaints, these usually occur during the convalescent state of that disorder. At that period, after a severe paroxysm, the urine becomes turbid,

dy, pains shifting from one part to another, spasmodic contractions, giddiness, loss of memory, imbecillity of mind, with a variety of anomalous complaints. Sometimes they are seized with a mania; but previous to their death, they often become paralytic, apoplectic, or comatose; in some particular cases, without any of these last disorders being distinctly marked, they seem rather to sink under the magnitude and severity of the disease, and at other times they die suddenly.

34. When the first fit of the gout takes not place till between forty and fifty years of age, the interval between the paroxysms is usually from two to three years; but after a few regular fits, they shorten to eighteen, and at last to twelve months. The later in life this disease makes its appearance, the longer and more complete are the intervals, the milder the disorder, and the less of the atonic gout in extreme old age.

35. Before we proceed further, it may not be improper to consider how far the obser-

from a critical discharge of the arthritic matter. This probably gives rise to the gravelish complaints, and the generation of sand, from the irritation of which, in the kidneys, or urinary passages, there is a considerable secretion of a viscid phlegm, which may lay the foundation of gravelly stones.

vations in the preceding paragraph, as part of the history of the gout, agree with our general doctrine. When this disease attacks persons early in life, an hereditary disposition towards it is to be suspected. But in the vigour of youth, when the activity of the body is greatest, and the powers of digestion are in their full force, seven or more years may pass before the return of a second paroxysm. The length of the interval, and the levity of youth, are probably the reasons why a proper attention is not paid to obviate the effects of the natural propensity to this disorder, by temperance and exercise. This inattention is not perhaps the sole reason for the interval shortening between the succeeding paroxysms: For when nature is accustomed to a particular mode of acting, to free the habit from an acrimonious fluid, she will more readily and easily renew the same process, when similarly stimulated. Besides, in every fit of the gout, there is more or less of a noxious fluid deposited in the cellular substance of the ligaments and tendons, or in the neighbourhood of them. The stiffness which this occasions in the joint affected, is not at first perceptible; but after the repetition of a number of paroxysms, and the parts come to swell, from the accumulation and indu-

ration of this fluid, a proportionable stiffness of the joint takes place. Such valetudinarians begin to walk slow, then to creep along as if their feet were covered with corns, and at last arrives the laboured hobbling step of martyrs to the gout *

36. After every fit of this disorder; when all pain has ceased, there remains a weakness and stiffness of the limb, and particularly in the joint that was affected; but in a few days the former strength and suppleness of the joint gradually returns, and the person comes to walk, seemingly with his usual agility and firmness. This weakness is not so remarkable after the first fit of the gout, as it is after the paroxysms, in the advanced state of this disease, when the foot and ankle often become oedematous. From this

* In this last advanced state of the disease, the swellings in the feet and hands are, in many instances, remarkably large. In one case under my care, the fingers of both hands were so swelled and distorted, that they constantly gave me the idea of so many ill shaped potatoes. Such swellings commonly suppurated from time to time, and with the matter issuing from the sores, may be observed the appearance of small grains, like mustard seed, of a whitish colour, involved in a mucilaginous fluid. In the above patient, a collection of them, about the size of a hen's egg, fell from a sore in the heel, after suppuration; but soon dried up to one third of that size, and is now in the possession of professor Monro.

and the preceding paragraph, it appears, why, after two or three regular attacks of this disorder, the time between the fits must necessarily shorten, until the patient arrives at that length of interval which corresponds with the accumulation of the gouty matter in the habit. Neither is it difficult to perceive why, in most cases, after several paroxysms, the person so afflicted becomes subject to regular returns of this distemper during the rest of his life.

37. After examining the most reputable theories, with the greatest attention, on the origin of the gout, and considering, with care and impartiality, every circumstance in the history of this disease, it appears to me more probable that the disorder arises from some defect in the functions of the primæ viæ, than from any other cause I can suggest. In many patients this seems to be owing to a morbid condition of the nerves of the stomach and bowels, derived from their parents. But we find, from every days experience, that the same morbid state may be induced on the nerves of these viscera, by an indulgence in the remote causes of this disorder. In almost every case of an early fit of the gout, and when this disease was known to be hereditary, I have, in general, found, that a full diet was partly the

cause of the first paroxysm. But the same full diet, and moderate quantity of strong liquors, being used by others with impunity, because of a different and a stronger constitution of nerves in the *primae viae*, the paroxysm is attributed solely to the hereditary disposition; whereas it is partly owing to a want of due attention to a proper regulation of diet and exercise. For, though even a moderate indulgence in the remote causes of this disease, for some time, seldom fails to produce a paroxysm in those who have a strong hereditary disposition to this distemper, yet we know that a strict perseverance in milk and vegetable diet, and an abstinence from fermented liquors, with proper exercise, are sufficient, in most cases, to prevent a return of the gout.

38. Notwithstanding what authors have written concerning digestion, and the conversion of the nutritive part of our aliment into chyle, I doubt much if this subject is sufficiently understood. The vain and frivolous attempts that have been made in laboratories to imitate the digestion of our food, which never did, nor ever can succeed, give us no perfect idea of the changes which take place during that process in the animal body. For where life exists not, it is beyond human art to produce animal

digestion. For the principle of life, diffused through the whole of the living body, of which the nerves are the chief conductors, and which gives energy and force to every action of the animal machine, I strongly suspect to have a considerable share in carrying on this animal process. We know at least, that by this principle all substances are preserved from putrefaction, and that the stimulating property of all fluids is thereby increased; but what farther energy it may have in the completion of digestion, and in perfecting the chyle, I know not; though, from our want of success in the most accurate experiments, I suppose it to be a considerable agent*.

39. But, as the nerves are the conductors of this principle, whatever injures them in their faculty of conducting, must have a proportionably bad effect on those operations in the system, that depend on the steady and regular performance of this function.

* When the stomach and bowels are in a healthful state, we suppose the principle of life to be properly conducted by the nerves distributed to these viscera. At such times the digestion, and the propulsion of the remains of our aliment through the small intestines, are quick, and they continue sweet. But in a contrary state of the primae viae, digestion is slower, and the substances subjected to it remain longer in the stomach and bowels, and tend more to putrefaction.

It is therefore probable, that, when any morbid change is brought on the nerves of the primae viae, and particularly of the stomach, a proportionable alteration will take place in the secretion of the gastric fluids; and of course, the digestion will not proceed in the same manner as in a more healthful state of the nerves. In a weak stomach, or in a diseased condition of the nerves of that viscus, digestion, after a full meal, is imperfectly performed, and all the symptoms of indigestion usually follow. While the stomach continues in this state of debility, wine, malt liquors, fruits, and almost every article of a vegetable nature, soon become sour, which subjects such persons to frequent heartburns, acid eructations, and other symptoms of indigestion. But as this acidity, when the same articles of diet are used, does not take place with those of more firm fibres, nor with the same valetudinarian after his stomach has recovered its former strength, I suspect that in weak stomachs an acid fermentation is quickly induced, from some morbid change in the gastric fluids, and which subsists no longer than while the nerves of the stomach continue in a diseased state.

40. By the long application of this acid to the nerves of the stomach, its functions

are greatly disturbed, and a weakness in the nerves is not only kept up, but seems to be communicated from this organ to the rest of the system. A quantity of bile, or acrid substances, from indigestion, appear to have the same effect in producing general debility. Every man whose stomach is weak, knows, that when this organ is disordered, his system is less firm and more irritable than usual, and that every sudden noise is apt to make him startle, which would not give him the smallest disturbance were his stomach in its usual healthful state. This circumstance shows the intimate connexion between the stomach and the system in general; and though the fact be generally known, yet, I imagine, this connexion is not always sufficiently recognised, for the *primae viae*, and particularly the stomach, must be considered as the centre of sympathy, either with regard to morbid affections received from, or communicated to, distant parts. Inattention to this general sympathy with the stomach, often prevents us from tracing the causes of certain diseases, and of course considerably protracts the cure.

41. On account of that general diminution of strength in the system, which always accompanies a state of debility in the *primae viae*, we seldom in such cases, meet with

a regular paroxysm of the gout. In such persons the symptoms mentioned in paragraph 15. more frequently take place. Valetudinarians of this kind are taught by experience to abstain from those articles of diet which are apt to turn sour, and which heighten and increase the number of their complaints. To avoid acidity in the stomach, ardent spirits and water are usually prescribed for their beverage. The relief they receive, in the languid state of their mind, from the cordial quality of this drink, induces them to indulge more than is consistent with the restoration of their health. Besides the observations made in the preceding part of this section (par. 17.—25.) on the effects of a too free indulgence in strong liquors, it may not be improper to make the following remarks on this subject.

42. Ardent spirits, the result of a vinous fermentation, is itself not only incapable of fermentation, but resists every process of this kind when mixed with substances that have a natural tendency to ferment. This property in ardent spirits being universally acknowledged, leads us to believe in their power of preventing fermentation, and of course the generation of acidity in the stomach; but experience contradicts this supposition. For almost in every case, where

persons are distressed by acidity in the stomach, from a debilitated state of that organ, notwithstanding the greatest care in avoiding every article of diet and drink which they suspect would have the smallest tendency to become sour in the stomach, yet they continue to be now and then afflicted with heartburn and acid eructations, though not so often as formerly, while they persevere in spirits and water as their beverage. But where the same attention has been paid to the regulation of their diet, and water has been their only drink, they are seldom troubled with acidity, their health returns sooner, and in proportion to the exercise which accompanies this plan of recovery.

43. It is apparently inconsistent and contradictory to assert, that ardent spirits possess the power of resisting fermentation out of the body, and that they lose that property when taken into the stomach; or rather, that an acid fermentation is more prevalent in the stomach when ardent spirits and water, than when water alone is used, which is the fact in many instances. The loss of this power in ardent spirits cannot be owing to their being absorbed, their losing part of their strength in vapour through the gullet, from the heat of the body; or that this power is in part lost when mixed

with a quantity of gastric fluids. Each of these circumstances may contribute to a gradual diminution of their strength: but the true reason why the acid fermentation takes place, must perhaps be chiefly ascribed to a morbid secretion of the gastric fluids, from a debility of the nerves being kept up, by the frequent application of ardent spirits.

44. Such is the obscurity in which the cause of almost every internal disorder is involved, that it is impossible to solve every objection that may be made to the best theories on these subjects. This is particularly the case with the gout, on account of the number of discrepant circumstances which attend the history of this disease. Could we reconcile some of these with what I have supposed to be the cause of this disorder, it would be an additional proof of the above doctrine. We say, for example, that men of robust constitutions, who have subjected themselves to the remote causes of the gout for a considerable time, are most liable to regular attacks of this distemper. But it is not till these remote causes have brought a debility on the nerves of the stomach and bowels, and the functions of these viscera are somewhat impaired, that the disease takes place; besides, after the disease commences, we know, that all debilitating cau-

ses heighten the disorder and increase the frequency of the fits. Notwithstanding, when, by the action of the same remote causes on a more delicate constitution, the nerves of the primae viae are considerably weakened, and a general debility of the system is induced, it is rarely the gout, but in general symptoms of the hysteric and hypochondriac diseases which affect such persons.

45. The action of the remote causes of the gout on these two different constitutions produce similar effects on the primae viae, but which have different consequences on the system. In both cases, a weakness and preternatural irritability is brought on the nerves of the stomach and bowels, but these effects are most remarkable in delicate constitutions: For the number and severity of the symptoms are in proportion to the mobility of the system. In some instances so uncommon a degree of irritability extends itself through the whole of the alimentary canal, as creates considerable disturbances from the application of acrid substances; wind in the bowels, and sometimes the natural stimulus of the ingesta, or even from the gastric fluids themselves, and hence arise many sympathetic affections, commonly called nervous complaints. If, therefore, from

this state of the *primae viae*, digestion is incomplete, and an acrimony is generated in our fluids, its effects on the system will be more constant and various than in more robust constitutions.

46. This great irritability of the system, in hysteric and hypochondriac patients, I suspect to be the true cause why the arthritic acrimony in such habits accumulates not to a quantity sufficient for the production of a regular fit of the gout. That in such persons a small degree of acrimony exists in the fluids, I infer not solely from their losing their complexion, or their flesh, because these circumstances may be owing to a deficiency of nutritive juices. But, when this is not the case, we must suppose an acrimony in the blood to be the cause of those signs of bad health. This is rendered probable by the temporary relief which such valetudinarians receive from eruptions, erysipelatous and other inflammations of the skin, and sometimes from pains of the rheumatic kind. These diminutions of part of the acrimonious fluid generated in the body, occur only occasionally, and are nowise regular in their appearance. But in habits so delicate, in which almost a constant irritation is kept up in the body, it must frequently happen that there will be a proportiona-

ble excitement in the system, to throw off part of this acrimony by the usual emunctories, which must prevent any considerable accumulation of it in the body.

47. In robust habits, the injury done by intemperance is at first chiefly confined to the *primae viae*; for, from the strength of the system, they are little liable to sympathetic affections or nervous complaints, and in this state of these viscera, digestion is not so completely performed as formerly. Although this deficiency in the digestive powers, at the commencement of the disease, is inconsiderable, and a slight degree of indigestion is the only consequence, yet it is, in process of time, sufficient for the production of the arthritic acrimony. For, on account of the strength of these viscera, in firm and robust habits, the appetite being kept up, and the digestion carried on without much disturbance, it is some years before the *primae viae* are suspected to be the original seat of this disorder. But as the disease advances, the intervals shorten, the symptoms of indigestion increase, become more and more troublesome, and are often attended with sympathetic affections in distant parts, especially in the irregular gout, and sometimes towards the approach, and on the going off, of a regular paroxysm.

For, notwithstanding the resistance made to sympathetic affections, at the commencement of this disorder, from the strength of the system; yet, by the steady, though slow, action of the remote causes, and from the repetition of a number of paroxysms, the constitution loses by degrees that firmness and stability it at first possessed, and becomes every year more and more delicate, and of course more irritable.

48. If I have, in the preceding paragraph, and in a former part of this section, attempted to show that the strength of the system, at the commencement of this disorder, in robust habits, is capable of resisting the action of the arthritic acrimony for a considerable time, and of protracting the intervals between the fits; also, that, as the strength of the system declines, and the body becomes more irritable, the intervals shorten; it is from experience, in a practice of many years, I endeavour to establish these facts. The effects of this irritability of the system, in the advanced state of this disease, helps us to explain the manner in which occasional causes act in producing fits of the gout. For as night-watching, intense study, and the other occasional causes mentioned in par. 7. produce debility and a proportionable irritability of the body, if

the arthritic acrimony prevails in the habit, there will be of course, from this increased irritability an excitement of the system in the production of a paroxysm.

49. In like manner, after repeated paroxysms of the gout, when the nerves of the primae viae have lost a good deal of their former energy, an indulgence in four punch, weak French wines, and particularly claret, often prove the occasional causes of fits of the gout, or of disorders in the stomach and bowels. Because, in the weak state of these viscera, such liquors produce an acid fermentation, which is sometimes carried to a great height. The consequences of an application of this acid to the primae viae, are not only a further debility and increased irritability of their nerves, but a proportionable extension of those morbid affections to the rest of the body, which will operate on the system by producing the gout, or gouty complaints, in the manner just mentioned; and the same way of reasoning will apply to all other occasional causes which produce general debility.

50. If, by the action of an occasional cause, such an increased irritability of the body shall arise, as usually brings on a premature fit of the gout, we must always suppose such a state to be accompanied with a

sufficient degree of strength in the system to produce that effect. For, unless a certain degree of firmness exists in the habit, no regular paroxysm can take place. The increased irritability of the nerves of the *primæ viæ*, and of the system in general, may occasion a variety of complaints in the stomach and bowels, and shooting pains may be felt in different parts of the body; but a regular fit of the gout is not to be expected while an excess of debility prevails. It is on such occasions, when symptoms of an irregular gout are tedious and troublesome, that we endeavour, by preparations of iron, stomachic bitters, and a proper regulation of diet and exercise, to restore the strength of the body. This method, if attended with success, and if the arthritic matter prevails in the habit, is usually followed by a regular paroxysm of the gout.

51. Although I have said that every degree of debility, except such as depend on some paralytic affection, is attended with a proportionably increased irritability, and of consequence that the body becomes less capable of resisting the effects of stimuli, than in a healthy state, or, in other words, that the excitement of the system will be in proportion to the decreased debility; yet this has its limits. For when debility takes place

to a certain degree, the external and internal senses begin to fail, and the irritability of the system is proportionably diminished, as is evident towards the end of malignant fevers, and of chronic diseases that have a fatal termination.

52. This species of debility seems to take place in a remarkable manner, when a person is under the influence of any of the depressing passions of the mind. For when grief to a considerable degree takes possession of a person who is subject to regular fits of the gout, especially if advanced in life, during the operation of this passion on the mind, there will be no fit of the Gout, though near the usual period of a regular paroxysm. Such persons lose their appetite, flesh, strength, complain of flatulency, and other disorders in the primae viae, make large quantities of pale urine, sometimes they are seized with a cholera, asthma, and other symptoms of the atonic gout. In such a situation the arthritic matter is apt to fall on the brain and nerves, with the usual consequences mentioned towards the end of par. 33. But in cases of this kind, we must not perhaps ascribe the atonic state of the disorder solely to that diminished irritability of the nerves, which, in other diseases,

commonly attends great debility; for, from the known sympathy between the mind and body, it is highly probable, that no great excitement in the system can be raised to free the body from an acrimonious fluid, while the mind is under any considerable depression.

53. From the commencement of the gout, to its most advanced state in old age, or until it becomes atonic, the body loses gradually that firmness it formerly possessed, and becomes more and more subject to sympathetic affections and nervous complaints. This progress in strong and robust habits is so slow as scarcely to be perceived for many years; for during the intervals they commonly enjoy good health, and the attack of a fit is seldom preceded, or followed, by those disturbances in the body which usually attend paroxysms in more delicate habits, or at a more advanced period of the disorder. But however slow the cause of this disease may act on some constitutions, by reason of their greater powers of resistance, yet in time they become equally delicate, and liable to a variety of nervous complaints with those who enjoyed not originally so great a degree of strength: Besides, from the general imbecile state of mind and

body in the atonic gout, there is reason to believe that, at that period of the disease, the arthritic matter acts chiefly on the brain and nerves. These remarks made by every physician of observation and experience in the gout, and by the unhappy patients themselves, have given occasion to some persons to assert, with great confidence, that the gout is entirely a nervous disorder, and to deny the existence of any morbid matter.

54. In an extensive sense, almost every disease to which the human body is liable, may be said to be nervous; because in them the nerves are more or less affected, and the functions depending on their influence are proportionably disturbed. The impropriety, however, of such a language is so obvious, that physicians have, for the most part, restricted the word *nervous* to those disorders and complaints which in certain persons, from the great delicacy and unnatural sensibility of their nerves, are produced by causes which, in people of a sound constitution, would either have no such effects, or at least in a much less degree.

55. But the gout belongs not to this last class of diseases, being in its regular attacks evidently an inflammatory disorder.

der. It is true, that, in the course of the gout, many nervous symptoms occur, especially in the advanced state, and under its irregular forms. But it is certainly improper to characterise a disorder from such accidental symptoms as may supervene during the continuance of it, or when the natural course of the disorder is obstructed by particular causes. It is highly probable, however, that the great obscurity in which this disease is involved, is chiefly owing to the various forms of its appearance in different constitutions, and at certain periods of the disease, which has likewise given rise to various opinions relative to its origin. To arrive, therefore, at a just notion of the nature of the gout, a strict and impartial view should be taken of its true state in different constitutions, and at its most remarkable periods.

56. In robust habits, and during the vigour of youth, when no material injury has been done to the constitution by repeated paroxysms of the gout, these paroxysms are in general regular, and their accession, in many cases, similar to those of other inflammations, being attended with some degree of rigour and chilliness, succeeded by a feverish heat, thirst, and

quickness of pulse *. At other times, the fit comes on without any of these last symptoms, and with very little forewarning of its approach †, the person being awakened at one or two o'clock in the morning, by the severe pain of an attack of the disease, in the first joint of the great toe, or some other part of the foot. But when the severity of the pain abates, which is usually in ten or twelve hours, though in some cases, it is protracted to double that space, the patient begins to eat and drink much in his usual way, and is not, during the continuance of the fit, or his recovery, afflicted with any remarkable nervous symptom. Sometimes a

* Some persons are more susceptible of the symptoms of pyrexia than others; this seems to depend on the greater or less irritability of the system, and on the degree and extent of the inflammation. In the more advanced stages of the regular gout, when one inflammation succeeds another until most of the joints in both feet and ankles have been affected by it, every new inflammation is, at its commencement, accompanied with more or less of the usual symptoms of an ardent inflammation.

† Some fits of the gout are said by authors to take place without any previous warning; but this coincides not with my experience, for there is always some intimation of the approaching fit, though the feelings are often so slight as to be forgotten in the severity of the paroxysm.

little flatulency, sickness, or pain at the stomach, occur, which may be occasioned from sympathy, by any severe pain, but more particularly while a person is under a fit of the gout; because, this disease is supposed to arise originally from some defect in the primae viae. This implies an excess of irritability in the nerves of these viscera, which must increase their natural propensity to suffer from sympathy when distant parts are strongly affected.

57. It is true, that the gout, in its first attacks, may seize the ankle, the heel, the wrist, or the elbow; but, in such cases, the patient is strongly inclined to believe the disorder to be rheumatic; from the great aversion he has to suppose himself afflicted with a disease, which so rarely admits of a complete cure. But such a commencement of this disorder is uncommon; for the usual seat of inflammation, in the first fits of the gout, is the ball of the great toe: In future paroxysms it extends to the ligaments surrounding the tarsus, the heel, or the ankle, and the disease is in general confined to one foot. For it is not till after several fits, that the patient is seized with the gout, first in one foot, and afterwards in the other, during the same paroxysm. As the

disease advances, the knees, wrists, elbows, and sometimes the joint of the shoulder, come to be affected, and in inveterate cases the inflammation seizes most of these joints one after another, before the paroxysm is completed, which is protracted in proportion to the quantity of arthritic matter necessary to be discharged. In such advanced states of the gout, the disorder continues regular for a longer or shorter space, then becomes irregular, and at last atonic.

58. When, from the regularity and mildness of the fits, the length of the intervals, the general freedom from complaints during these periods, and the strength of the constitution, we perceive the disorder to be of a mild nature; persons under so mild a gout are seldom afflicted with nervous complaints; especially if temperance and exercise are used to obviate the severity of the disease. For by the regular return of these inflammatory paroxysms, the body is freed from so much of the arthritic matter, as insures an interval of ease, until it again accumulates in the habit, when nature is stimulated to a renewal of those actions to which she has been accustomed to free the body from that acrimonious fluid. These cri-

tical emotions of the system are commonly attended with a more free perspiration than usual, and with turbid urine towards the end of the paroxysm, part of the arthritic matter being probably thrown off, by these emunctories.

59. When the paroxysms of the gout are regular, under such circumstances as are just mentioned, and the intervals not less than a year, it is not uncommon for men under such annual returns of the disease, to live till they are considerably advanced in life; and without any diminution of that vigour in the exercise of their mental faculties they formerly enjoyed, than what is commonly the result of old age. It sometimes happens, however, under these mild appearances, that the distemper becomes irregular; in such cases nervous and anomalous complaints are more frequent; and if towards the end of life, the disorder becomes atonic, it is usually attended with such symptoms as are mentioned in par. 33.

60. From the general view I have taken of the nature of the gout, it is easy to perceive, that, in proportion to the delicacy of the constitution, the strength of the hereditary disposition, and the power with which the remote causes have acted on

the system, the intervals will begin to shorten, and the paroxysms to become irregular, at a more or less early period of the distemper. For, in a variety of cases, we see all the different states of the gout; and when the disease is severe, some persons die of it before their 50th year, while others, from those circumstances which are known to aggravate the disease being less prevalent, withstand the repeated attacks of the disorder to 60 or 70 years of age, and even to a later period; and although the disorder in some cases seems not to shorten their days, because they enjoy tolerable health during the intervals, yet, almost in every instance, it appears to have that effect.

61. The sudden deaths which sometimes happen to persons afflicted with the gout, at different times of life, and particularly between their 70th and 80th year, are usually, with some reason, ascribed to the immediate action of the cause of the disease on the brain. But, in old age, a frequent termination of the gout, is in what is called its atonic state. This change in the form of the gout, from regular paroxysms of an inflammatory disposition, and attended with the inflammation of some particular joint, to

its atonic state, is a very remarkable circumstance in the history of the disease.

62. In this last mentioned stage of the gout, the patient is seldom attacked with any febrile disorder, or topical inflammation, unless excited by a catarrh, or some of the general causes of fever. It is the stomach, and bowels, that are at first chiefly affected, from whence seem to arise various sympathetic affections of the head, lungs, heart, and in general the praecordia. These at first are excited, not without the action of some strong stimulus on the nerves of the primae viae: But after they have been often produced in a similar manner, from a morbid irritability being thereby induced on the parts affected, they come at last to be excited by very slight causes. These disorders are, at their commencement, sometimes removed or alleviated by gentle emetics, and laxatives; but, after they have become habitual, our best medicines, for a temporary relief, are opium, camphire, aether, volatile alkali, ardent spirits, ginger, asafoetida, and other medicines of a similar nature. The morbid affections of the liver and kidneys, under the forms of cholera and diabetis, I suspect to be owing to the immediate application of the

arthritic matter to the secretory organs of these viscera. A tenesmus and stranguery, in gouty constitutions, must, in general, be attributed to the same cause, though they may sometimes arise from sympathy.

63. Several reasons are given by authors, for that singular transition from the regular to the atonic gout; but the true cause appears to be debility, from whatever source it is derived. For, although the arthritic matter may be prevalent in the body, yet we know that a certain degree of strength is necessary, for the formation of a regular paroxysm. But, if from a delicacy of constitution, a long course of intemperance, the debilitating effects of some previous disorder, or from the long continuance and severity of the gout itself, there remains not in the system a sufficient degree of strength to produce a regular fit of the gout, the arthritic acrimony, accumulating in the habit, will affect the system variously; and this variety of complaints, in different persons, seems often to arise from a peculiarity of constitution. That diminution of strength, which attends the advancement of age, is slow, but steady; and being progressive, such a degree of debility must at last take place, as is inconsist-

ent with the formation of a regular paroxysm of the gout. This, with the debilitating effects of the gout itself, seems to be the principal cause of the atonic gout in old men; for the arthritic matter continuing to be generated, and critical discharges of it ceasing to be made, the system is affected by it in the manner mentioned. The effects of this acrimonious fluid, when in some cases it acts on the brain and nerves, are not so painful, as they are humiliating to our humanity, in the diminution of memory and judgment, often to that degree, that there seems to be an almost total abolition of the mental powers, sometimes attended with insanity and even mania.

64. Notwithstanding the great variety of forms, in which the gout makes its appearance, in different persons, and at different periods of the disease, the whole may be arranged under the three following heads; the regular, the irregular, and the atonic gout, in advanced periods of the disease, and in old men. This division seems to me natural, and sufficiently comprehensive of the various states of this distemper; for minute distinctions seldom elucidate,

but often perplex, a subject *. Indeed from the observations already made on these divisions, it is unnecessary to be

* Persons subject to the gout, are, in common with the rest of mankind, liable to other diseases, either when an hereditary disposition to some particular disorder prevails in the constitution, or when they are accidentally exposed to the causes which produce them. But when a disease distinct from the gout exists in a gouty habit, it seldom fails to disturb the natural course of that distemper; and as the disorders are different, so the method of cure for each must likewise differ. When the disease is of a chronic nature, the cure can only be attempted during the intervals of the paroxysm of the gout, and must be carried on with prudence and caution, to prevent, as much as possible, the natural progress of the gout from being interrupted. These accidental conjunctions of other diseases with the gout, have induced Musgrave and others to divide the gout into as many different species, as there happen to be chronic disorders connected with it. I even suspect that some of their divisions do not strictly belong to this distemper; and that they have been led into the mistake from some symptoms of chronic diseases, which we know resemble those of the gout. For Musgrave gives us different species of the gout under the denomination of *arthritis symptomatrica*, *arthritis rheumatismo superveniens*, *arthritis ex chlorosi et ex mensium suppressione*, *arthritis hydropi superveniens*, *arthritis melancholica*, *arthritis fixa scorbutica*, *arthritis lvi venereae succedens*, *arthritis asthmatica*, *arthritis febris succedens*, *arthritis ex colica*, *arthritis morbis quibusdam cuticularibus subiecta*. Each of these diseases,

very particular in a farther description of them. It will be sufficient if, by a short review of them separately, and by considering some circumstances peculiar to each, we shall be led to a more distinct idea of the true nature of this disease.

65. It has always been my opinion, that a regular fit of the gout should be considered as a salutary paroxysm, excited by certain laws in the system, to free the body of a morbid matter, generated in our fluids, which, if retained, would prove hurtful to the constitution. From the periodical returns of those fits, we may presume a farther generation of arthritic matter, during the intervals, which is sufficient for their production. The disorders of the stomach and bowels, and other irregular complaints which sometimes occur, for a few days before the accession of a fit, when the arthritic matter is prevalent in the body; and the return of these complaints for some time, dur-

which he connects with the gout, and many others not mentioned, I have known to accompany that disorder. Some of them are consequences or symptoms of the irregular and atonic gout; but from the best observations I have been able to make, I never knew this disorder originate from those supposed causes; and, of course, I have always thought the above distinctions frivolous and injudicious.

ing the recovery from a paroxysm, and before the arthritic matter is completely discharged by the emunctories, prove the existence of a *materies morbi*. The enjoyment of greater alacrity of body and mind after a fit of the gout, than for a considerable time before, likewise shows it to arise from some noxious fluid, thrown off during the paroxysm. The duration of the paroxysm, with the number and extent of the inflammations succeeding one another, in different joints, appear to correspond with the quantity of arthritic matter, to be thus critically discharged. Besides, our sight and feeling bear testimony of the disposition of a morbid matter on the joints, in every fit of the gout, not only from the inflammation thereby excited, accompanied with excruciating pain, but from the remarkable perspiration of the part affected on the declension of the inflammation, the great itchiness of the part, on the disease going off, and other signs of a critical discharge.

66. It was the opinion, however, of a late celebrated author, that these inflammations were raised by the *vis medicatrix naturae*, to overcome an atony in the extremities, communicated to the rest of the system. This *vis medicatrix naturae*, in most cases, is an expression of doubt-

ful import, being somewhat similar to Van Helmont's *Archæus*; and, as to the atony mentioned, there is no proof that it ever exists. But, to accommodate our reasoning to such a theory, we must give up the evidence of our senses; which would be equally absurd as the adoption of the Bishop of Cloyne's doctrine of Ideas.

67. If those who insist on the gout being entirely a nervous disorder, had admitted the existence of a morbid matter, their theory would have been more easily comprehended. For no disease is attended with a greater variety of nervous complaints, or sympathetic affections, than the gout in its irregular and atonic states; nor is there any acrimony more capable of producing them, if we may judge from its effects, than the arthritic. In the irregular gout I comprehend not only what is called the retrocedent, and the misplaced gout, but every other morbid state of the body and mind, arising from a defect in the critical discharge of the arthritic matter. The atonic gout may be here also comprehended; but I shall consider this state of the disorder in old men separately.

68. It would be tedious and almost impossible to describe the different forms

of the irregular gout, because of the great variety of their appearance in different constitutions; and it sometimes happens, that they are not easily distinguishable from other complaints, which are not of a gouty original; and, therefore require the careful examination of the physician to distinguish them. It is necessary to observe how far they correspond, or are similar to other symptoms of the irregular gout, we have formerly met with in practice; we should be informed if there is reason to believe, that the gout is hereditary in the family; likewise how far the patient may have exposed himself to the remote causes of this disorder; if the complaints have alternated with pains in the joints; if the person has ever had a regular fit of the gout, and with what effect in regard to his other complaints. These, and some other inquiries, which will naturally occur from the particular history of the disorder, will in most cases fix the true nature of the disease.

69. Although in the irregular gout the *primae viae* are in general the parts mostly affected, yet no sensible part of the body is exempted from its effects. The external parts of the head, brain, and with it the

mind, are variously affected. The viscera of the thorax, abdomen, and pelvis, suffer by turns*. The complaints arising from a morbid affection of these parts, often alternate with disorders of the stomach and bowels, and with pains in the joints, or some other external parts. This last case is usually attended with an alleviation of symptoms; but of no long duration, unless the inflammation amounts to a complete fit of the gout. The disorders in the irregular gout are often of the chronic kind, accompanied with depression of spirits, despondency, and apprehension of danger. Costiveness seems natural to gouty constitutions; but, when the faeces and bile stagnate for some time in the bowels, they become acrid, and produce a diarrhoea.

70. It is believed in general, and with

* In a singular case of a gentleman of forty years of age, with a robust and full habit, who came under my care, the arthritic matter had affected him with violent pain, which shifted from the abdomen to the testicles, and sometimes to the back, and vice versa; this disorder had attacked him, from time to time, for many years, but was chiefly confined to the testicles, or abdomen, but never in both places at the same time.

The cure was accomplished by warm-bathing, temperance, exercise, and laxative stomachic medicines.

reason, that most complaints in the irregular gout arise from the absence of regular paroxysms, and from the incomplete discharge of the arthritic matter by the usual emunctories; but how these inflammatory paroxysms come to be obstructed in particular constitutions, when the arthritic matter prevails in the habit, is difficult to ascertain. This cannot, in all cases, be ascribed to general debility, because we see, from time to time, persons afflicted with the irregular gout for a considerable time, who are not defective in bodily strength. It is not probable that any specific difference exists between the acrimonious fluid affecting the system in the irregular gout, and that which produces regular paroxysms; because, in the former case, there is sometimes a regular fit of the gout, and in the latter symptoms of the irregular gout often proceed a complete paroxysm. It is more likely that the irregular gout arises from some peculiarity of constitution, not always in our power to discover, or from a defect in the nerves of the primae viae. This last circumstance, in conjunction with the action of the predisposing causes, is more likely to produce an irregular gout, than any thing else I can suggest.

71. For, notwithstanding I have alleged, that the regular gout arises from some deficiency in the digestive organs, yet I am also of opinion, that a certain degree of firmness in the *primae viae*, and in the system in general, is requisite for the formation of a regular paroxysm. But, when this degree of firmness is wanting, and the stomach and bowels are in their debilitated state, approaching to that of hypochondriac patients, it is the irregular gout that commonly takes place. In confirmation of this supposition, persons who have a regular gout possess, in general, for many years after the commencement of this disorder, and especially if the intervals exceed a year, a tolerable appetite during those intervals, apparently a good digestion, and enjoy in other respects good health. Whereas, those who are afflicted with the irregular gout have seldom a regular appetite, nor are they uniform in their quantity of food; for sometimes their meals are moderate, and at other times from a depraved sensibility of the nerves of the stomach, they eat more than is consistent with the weak condition of the *primae viae*, and of course their digestion is proportionally less perfect.

72. Besides, in this less firm state of the body, the system in general is not only proportionably more irritable, but there is commonly some viscus, or part of the body, possessed with a greater degree of irritability than the rest, which, in different constitutions, gives rise to the various complaints we meet with in the irregular gout. Several of these complaints arise at first from sympathy with the stomach and bowels morbidly affected, as giddiness, headachs, palpitations, and other irregular motions of the heart, asthma, &c. By the frequent repetition of them, however, a morbid delicacy is thereby induced on the brain, heart, and lungs, and of course these disorders become habitual. But care should be taken to distinguish between the chronic disorders from an arthritic acrimony in our fluids, and those of the same denomination arising from other causes. The only sure means of being satisfied that these disorders are of a gouty original, are, their alternating with pains in the joints, or their being removed by a regular paroxysm of the gout. For it is wrong to suppose the arthritic acrimony to be so general a cause of chronic complaints as some imagine.

73. Although the word *Atonic* is no doubt applicable, in many instances, to what is usually denominated the Irregular Gout; yet I wish to confine it to those persons in whom the arthritic acrimony prevails, but in whom no effectual exertion of the system takes place, to free the body from the arthritic matter. Of course, in this state of the disease, we seldom meet with such inflammatory pains in the joints, as usually relieve disorders of the head, or viscera of the thorax and abdomen, in the irregular gout. It is such complaints as are mentioned in par. 33. that afflict the unhappy patients, with others that indicate more particularly the nervous system in general to be affected. These disorders are not constant, but come and go in an irregular manner, being accompanied, even in the intervals, with a general debility of body, and sometimes of the mind. The duration of such a valetudinary state is various; with some it is only for a few days, weeks, or months, and with others it is for several years previous to their death. When this atonic gout takes place in a constitution, worn out by numberless paroxysms of the gout, and especially if to these are added the infirmities and debility of old

age, it seldom fails to put a period to their existence in a short time. Notwithstanding, there are instances of men, even in an advanced age, living under these complicated disorders for several years. Such cases are usually attended with more or less want of vigour in the exercise of the mental faculties, and for the most part the patients die of a palsy or apoplexy.

74. From this view of the atonic gout, it is easy to perceive that I consider it only as a more advanced stage of the irregular gout; likewise that the causes, mentioned in par. 70. and 71. of this last disorder, are the same with those of the atonic gout; but, in producing this last effect, their action is more powerful and extensive in the system, and, of course, the disease is in general of greater magnitude and danger. For, although the pains in the irregular gout, moving from one part of the body to another, similar to those of the rheumatic-kind, and alternating with disorders of the viscera, appear seldom to produce any complete intervals from complaints, yet they seem to contribute somewhat to the expulsion of the arthritic matter. It is probable that those fits of illness returning after uncertain intervals, and continuing for

some days or weeks, in gouty constitutions, as the asthma, palpitations of the heart, strangury, morbid affections of the kidneys, and even of the primae viae, have nearly the same effect, though perhaps less powerful in the expulsion of the arthritic matter.

75. If, in the irregular, or atonic gout, an erysipelatous inflammation, bile, or imposthume occur, as is sometimes the case, they seldom fail of giving considerable relief, in some degree producing the same effect as a fit of the gout. The relief thereby obtained will in general be found proportionable to the extent and duration of the inflammation, the size of the imposthume, and its subsequent discharge, which is an additional proof of the existence of a materies morbi.

76. It is remarkable in the atonic gout, in which, from the great debility of the system, so few exertions are made to free the habit from the arthritic acrimony, that its action and effects should be chiefly on the brain and nerves. The same thing happens in other diseases, as convulsions before the irruption of the small-pox and measles; the nerves are sometimes remarkably affected before the appearance of an erysipelatous inflammati-

on, and other cutaneous eruptions. But this is more especially the case, when the ordinary course of the gout, by regular paroxysms, is obstructed, and the arthritic matter is thereby accumulated in the habit. I have, in many instances, known this to be effected by bathing the feet in cold water, which stopped the progress of an incipient inflammation in the foot, an indication of the approach of a regular paroxysm of the gout; by some taking the bark; others, Portland's powder, as a cure for this distemper. But the more successful they are in preventing, by these means, regular fits of the gout, the greater is the danger to the constitution, and to life itself, by producing chronic diseases and sometimes mania; but in most of the cases I have known treated in these different ways, the patients have died suddenly. This is probably occasioned by the accumulation of the arthritic matter, and its immediate action on the brain and nerves, by which their powers are speedily destroyed.

77. Indeed, in all the forms of the irregular gout, there are in different persons, such a number and variety of sympathetic and nervous complaints, that it can be no matter of surprise, if every ir-

regular state of this distemper should by some, without examining minutely the nature of the disease, be denominated nervous. In par. 54. I have mentioned what is commonly understood to be a nervous disease, which enables us easily to distinguish between nervous symptoms which may accompany an ague, jaundice, dropsy, or any other disorder in which the nerves in general are not supposed to be particularly affected, and those which arise from a morbid delicacy and irritability of the whole nervous system. In the regular gout, for it is only from the regular form of a disease we should draw its character, there are few or no symptoms that can be called nervous. The disease is inflammatory, terminates in an inflammation, and when the paroxysm is completely finished, the patient's health usually returns to as firm a state as before the accession of the fit. But when, for reasons already given, and there remains not in the *primae viae*, and in the system in general, a sufficient degree of strength, for the production of a regular paroxysm, the disease becomes irregular, or atonic, the nervous symptoms come then to be frequent. For the arthritic matter accumulated in the body affects particularly the nerves, as has been observed.

78. The idea of the gout being a nervous disorder, will occur to superficial observers, who are inclined to adopt this opinion, from certain nervous symptoms, which sometimes, but not constantly, precede a regular fit of the gout. These are, the ceasing of that copious perspiration of the feet, which usually attends gouty constitutions, when in their best health; sometimes a numbness, with a sense of coldness in the legs and feet, alternating with an uneasy prickling sensation in those parts; cramps in the muscles, and, in some cases, these symptoms are felt in both legs, though the approaching fit is confined to one foot. The great difficulty which in general attends the investigation of the causes of diseases, and sometimes of symptoms, often incline authors to pass them over in silence, even when they are capable of some explanation. This seems to be the case with regard to those symptoms previous to paroxysms of the gout, and of the leg being similarly affected, in which no fit takes place. These very symptoms show, that the operations of nature are more slow and gradual, than the sudden attack of violent pain in a fit of the gout would lead us to conclude.

79. Here is a process begun, which is to produce a paroxysm of the gout; and this I suppose to be a secretion of the arthritic matter, amongst the ligaments and tendons of the joint, in which the inflammation and pain are to take place in the approaching fit*. For some little time the quantity of this matter is smaller, and perhaps less acrid than it becomes afterwards, but of a sufficient degree of power to affect the nervous filaments of the part where the secretion is made, which is capable of producing all the uncommon feelings in the foot and leg just mentioned. This supposition seems to be supported by those slight pains in the foot, for some days before the accession

* From the painful exercise of a long walk with strait or short shoes, there remains a tenderness in the feet for some days. If the person performing this journey is of a gouty disposition, it is highly probable, from the great irritability thereby induced on the joints of the feet, and particularly on the ball of the great toe, on which we step forward, that a morbid secretion of the arthritic matter begins to take place immediately after the walk, though the fit makes not its appearance till the third day after, as more particularly mentioned in par. 7. and is attempted to be explained in my *Observations on the Animal Oeconomy, and on the Causes and Cure of Diseases*, sect. 5. par. 148. 149. and 150.

of the fit. The same disagreeable feelings in the opposite leg are entirely sympathetic, from a similarity of texture and constitution of nerves in both legs at their terminations. Similar to this is the sympathy of an eye, kidney, testicle, or mamma, with those of the opposite side, as has been more fully explained in sect. 2. par. 42. of the above mentioned publication.

80. The sickness, pain, flatulency, and other disagreeable symptoms felt in the stomach and bowels for some days previous to the accession of a fit of the gout, are probably owing to the same cause, as is more particularly explained towards the end of par. 56. When, from a greater firmness in the nerves of the primæ viæ, no such symptoms occur, it sometimes happens that an unusual, keen, and unnatural appetite takes place the day preceding the fit. This remarkable circumstance is mentioned by authors, particularly by Sydenham, and I have observed it on many occasions. If this singular phenomenon admits of any explanation, we perhaps must say, that it arises from sympathy with the nerves of the part in which the inflammation is to take place. For the morbid matter secreted, stimulat-

ing these last, may increase the sensibility of the nerves of the stomach, and without affecting them so far as to create either pain or sickness.

81. There is another circumstance which inclines some medical men, but more particularly the patients themselves, to believe that this disease is a nervous disorder; this idea often arises from the sudden and almost instantaneous movement of the pain from one foot to the other, which is often succeeded by the usual ardent gouty inflammation. This transition is often accompanied with a quick disagreeable sensation in both legs, seeming to move from the diseased to the sound foot with the swiftness of an electrical stroke. This, say they, is entirely a nervous affection; and in so saying they are right: but we ought to inquire how the nerves come to be thus affected. In the subsequent part of this section, my reasons for supposing the secretion of the arthritic matter to commence some days before the accession of the gouty inflammation, shall be more fully stated. From the first application of this acrid fluid to the delicate nervous filaments of the tendons and membranes of the joint, it will gradually induce a preternatural irritability in those parts. This preternatural ir-

ritability will be sufficient not only to produce the symptoms mentioned in par. 78. but to render the nerves, from which these filaments are derived, extremely susceptible of being sympathetically affected in their course through the whole of the lower extremities.

82. But such is the nature of this disorder, that the pain arising from the arthritic matter is often so instantaneous and severe, that it readily accounts for the sympathetic affection of the nerves of one extremity with those of the other. This is the more easily comprehended, if we allow both set of nerves to have acquired a morbid irritability, from the preceding effects of the disease, and especially if we admit the reasoning in par. 79. on the same subject. That the seat of the pain and inflammation, shifts from one foot to another, for reasons afterwards to be assigned, is certain; but that an elastic vapour, or *aura*, should fly up one leg and thigh, and down the other, from the diseased to the sound foot, as patients have often expressed themselves to me, and appear to carry with it the active cause of the succeeding inflammation, is a mere deception. For when the nerves of the diseased, or of the opposite foot, where the

pain and inflammation are soon to take place, are forcibly stimulated by the arthritic matter, the nerves in the leg and thigh of both extremities will be simultaneously affected, similar to the striking of a musical string, which will cause others to vibrate that are in unison with it.

83. The shifting of the pain and inflammation successively from the first joint of the great toe, to the heel, ankle, tarsus, metatarsus, and afterwards, in advanced stages of the disease, to the same parts in the sound foot, before the paroxysm is completed, merits our further consideration. For, when the arthritic matter is secreted amongst the ligaments and tendons of any part of the foot, it may be asked, why this secretion continues not till most of the arthritic matter is thrown out from the circulating fluids, or till the fit of the gout is completed? In a question of such difficult solution, it may not be in my power to give so clear and satisfactory an explanation as might be desired; but such probable reasons for the movement of the inflammation from one place to another, as occur to me at present, I shall humbly offer to the consideration of my reader. In attempting this explanation, our best method will be to observe, as well as we can, the operations

of nature, and the phenomena of the disease. Let us, therefore, consider the effects of the arthritic matter secreted amongst the ligaments and tendons of the joint, when it is become extremely acrid, and excites the most excruciating pain, and an high degree of inflammation.

84. From par. 78. I have endeavoured to show, that the secretion of the arthritic matter is prior to the pain and inflammation of the joint; and from the symptoms mentioned in par. 79. this acrid matter continues to be thrown out from the circulating fluids, for some days preceding the paroxysm. On the accession of the pain, and for some time after, for the reasons to be mentioned when we come to consider the effects of pain, the secretion of the arthritic matter appears to be considerably increased. But as the severity of the pain begins to abate in less than 24 hours, we must suppose that this abatement of pain arises from a ceasing, or diminution of the morbid secretion, assisted by the powerful effects of the absorbents. This inability in the secretory vessels to continue the morbid secretion, is probably owing to their having lost, in some degree, their tone, from an access of irritation and the great distension of the vessels in the pre-

ceding inflammation. In this debilitated condition of these secretory organs, they cannot be again excited to renew the morbid secretion, till they have recovered their wonted irritability, and healthful state, which seldom happens during that paroxysm, or at most in an inconsiderable degree. When the deep seated pain in the joint begins to abate, the morbid secretion and inflammation take place in the cellular substance, and integuments covering the joint, with a greater degree of redness and swelling. In this state, the disorder continues longer, commonly for several days, but with less pain than on its first attack, and at last terminates in a copious evacuation of the morbid matter by the excretories of the skin. The same debility, with the other effects of an excess of stimulus which took place in the vessels more deeply seated amongst the ligaments of the joint, appear likewise to take place amongst those of the integuments, though more slowly, as the pain is less; for the secretion of the acrid matter at last ceases, and the disease in that part gradually disappears.

§5. Such an attack of the gout as I have just described, may complete the paroxysm in the first fits, or when it is of a mild nature. But in the more advanced stages of this disorder, when the arthritic matter

is so abundant in the habit as to render it impossible, for the reasons given, to be thrown out from the blood in one topical inflammation, nature will then exert her powers in exciting a second, third, or fourth inflammation, succeeding one another in different ligamentous parts of the foot and ankle, which appears to be the natural seat of this distemper. When so many inflammations, succeeding one another, suffice not for the discharge of the arthritic matter, then the secretion and consequent inflammation take place in a similar manner, in the tendinous and ligamentous parts of the sound foot. In par. 57. I have mentioned, what we often observe in practice, that the gouty inflammations move from the feet to the knees, or to the hands, and other joints of the upper extremities before the paroxysm is completely finished. I have known the knees, and sometimes the wrists, and hand, attacked in the first fit of the gout, without the feet being in the least affected, but such cases are rare. For, in general, it is not till the secretory vessels in the feet have lost in a great degree their aptitude for secreting the arthritic matter, from repeated and severe fits of the gout, that the knees, hands, wrists, and other joints of the arms, are seized with the gouty inflammation. In such pa-

tients we observe those swellings on the joints of the feet and hands, mentioned in par. 35. They probably arise from a fluid thrown into the cellular substance, which by means of the absorbents, thickens into a gelatinous consistence, probably different from that which excited the ardent, inflammation ; because I have known them to be produced on the joints of arthritic patients, without any previous inflammation.

86. The manner in which I have alleged this inflammation to be produced, is not peculiar to the gout ; for every species of inflammation from internal causes, seems to be excited in the same way, by the secretion of an acrid matter, stimulating the soft parts to which it is applied. The irruptive spots in the measles, is a rubifaction tending to a slight superficial inflammation of the skin, brought on, and kept up by an evacuation of the morbid matter, through the secretory vessels of the skin. But, when this disease has nearly run its course, and there remains not a sufficient quantity of the morbid matter to keep up the slight inflammation of the spots, their redness gradually declines, and they, at the ordinary period of five or six days, entirely disappear. The matter of the small-pox, which is specifically

different, is secreted from the blood in the same manner, and its being in a greater quantity, and perhaps more acrid, produces a higher degree of inflammation, and even suppuration, in the form of pustules.

87. The immediate exciting cause of of an erysipelatous inflammation, I have always considered to be an acrid fluid, thrown out from the blood on the surface, and in the interstices between the fibres, and the vessels of the skin. When the quantity of this acrid matter is greater than can exude through the cuticle, this integument is raised into vesicles, or blisters, and from its great sharpness it often produces small sores, and even gangrene, by occasioning the death of the parts to which it is applied.

88. If we carefully attend to the accession and progress of the acute and chronic rheumatisms, a similar secretion seems to take place, though less in view than in the instances just given, because of the deeper seat of the disease. In the inflammatory rheumatism, the pains in the joints, from their commencement, speedily increase to a great degree; but during the severity of this pain, from the deep seat of the inflammation amongst the ligaments and tendons, which are not very capable of inflammatory distension, there is scarcely

any perceptible swelling or inflammation of the joint. Soon after this, the inflammation and swelling of the integuments become apparent; and, as the swelling increases, the deep seated pain lessens, and at last almost ceases, unless the joint is moved.

39. The only explanation of these phenomena, I can suggest, is the secretion of the rheumatic matter, and its application not only to the surfaces in general of the ligaments and tendons, but to those of the small vessels and fibres which compose their substance, by the irritation of which the inflammation and pain are excited. This secretion I suppose to be made by the exhalent arteries which open on every surface. It commences, and continues for some time amongst the ligaments and tendons of the joint, as is mentioned above; then moves to the integuments with an alleviation of pain, though with considerable inflammation, swelling, heat, and dryness of the part, and is at last performed by the exhalent arteries and excretory vessels of the skin, which produce a copious perspiration, towards the declension of the inflammation. This divides the progress of the inflammation into three distinct stages, and is perfectly similar to a fit of the gout.

90. If this doctrine is true, we must, from the uniformity of nature in her operations, suppose, that all other inflammations from internal causes are produced in a similar manner. For the inflammations at the commencement of inflammatory fevers, as the pleurisy, peripneumony, inflammations of the liver, &c. likewise those inflammations which sometimes occur towards the crisis, and during the convalescent state of fevers, seem all to be excited by an acrid matter previously secreted from the blood. I know not if the quantity of fluid matter of a whitish colour, found on the surface of the intestines after death, occasioned by the puerperal fever, is a proof of this doctrine. But the fluid, similar in its appearance to what is called pus, with which the lungs, pleura, &c. have been observed to be covered, without our being able to discover the smallest sore, or imposthume from the preceding inflammation, I humbly apprehend to be an evidence of its truth, as is the perspiration which accompanies inflammations ending in resolution. Further testimonies of inflammations being excited by a fluid secreted from the blood, are, a thickening of the ligaments and membranes of the joint, after repeated fits of the gout, and swellings which arise

from a collection of gelatinous matter in the cellular substance under the skin, as described in the note to par. 35. The same appearances, though seldom, and always in a less degree, which happen after several attacks of the inflammatory rheumatism, and likewise the schirrous swellings which sometimes remain after inflammations of the glands, and other soft parts, evince this fact.

91. In our endeavours to investigate the causes of certain symptoms, which sometimes precede a regular fit of the gout, and of the subsequent inflammation, I have been naturally led to consider the cause of inflammation in general. This is no doubt one of the most important subjects in the history of diseases; for the inflammation of particular parts of the body is common to fevers in general, and at the commencement of those of the inflammatory kind, often constitutes the most essential circumstance of the disease, to which the greatest attention ought to be paid. Besides, the cause of this inflammation is often so connected with the original cause of the fever, that it is difficult to take a different view of them. For these reasons, and because the several theories I have seen on inflammation are

so obscure and unsatisfactory, with regard to its origin, I am inclined to proceed with some further observations in confirmation of the above theory.

92. Besides the natural stimulus of the blood, and that of the vital fluid absorbed from the air in respiration, applied to the internal surfaces of the heart and arteries, by which the circulation is chiefly carried on, as will be fully demonstrated in a dissertation on the Vital Motions soon to be presented to the public; it is accelerated by various other causes. These are heat, exercise, stimulants applied to the stomach and bowels, pain, passions of the mind, and acrid substances absorbed, or generated in the body, by which the natural stimulus of the blood is increased. If, by the action of any of these causes, the circulation is quickened, and the blood carried through the arteries with considerable force, the skin acquires more or less of a reddish colour, especially in some fevers, and febrile disorders, previous to an eruption on the skin. Such an increase of stimulus to the internal surface of the small arteries, may, on certain occasions, produce a secretion by the excretory vessels of a morbid matter, when it exists in our fluids; but I

doubt much if any increase of stimulus in the blood, is capable of producing a permanent inflammation, previous to such a secretion.

93. The simplicity of this doctrine ought not to be any objection to its probability, especially as it is perfectly similar to the manner by which every inflammation is excited, from irritating substances externally applied to the skin, or to any organised part of the body. It is to this last circumstance of irritation, we must look for the cause of every species of inflammation, which are extremely different, according to the nature of the irritating substances. But to give us a distinct idea of the manner by which inflammation is raised from irritation alone, let us take a view of the effects of mechanical violence on any part of the body, and of acrid substances applied to its surface.

94. If a thorn, or other extraneous substance is lodged in, or under the skin, the pain which it produces, not only from the laceration of the soft parts through which it has passed, but by its pressure on the surrounding substance, and especially by its angles and points, a greater quantity of blood, than in a natural state, is

propelled through the small vessels of the part affected, from their oscillatory motions being proportionably increased. Under these circumstances of irritation, and of increased action of the small arteries, their diameters are enlarged. This enlargement of these vessels, is gradually extended to the adjoining small arteries, until the inflammation has acquired its utmost extent. In this advancement of the disorder, the redness becomes more vivid, from the violent extension of the vessels, and from those that were invisible in their natural state having come into view; a swelling, of course, is observed, accompanied with an increase of heat, pain, and throbbing of the part affected. During this period, some impediment, or obstruction, seems to be given to the free circulation of the blood, through the small arteries to their corresponding veins, probably at that point of partition where the artery is said to terminate, and the vein to begin. This appears not to arise from any contraction, or diminution of the diameters of the small arteries, but from a larger quantity of blood being propelled through them in a given time than formerly, which should naturally produce a contrary effect. From the great force

exerted by the small arteries in this state of obstruction, to propel their fluids, the very small vessels arising from these arteries, carrying in their natural states pellucid fluids to the cells of the cellular substance, and other surfaces, are gradually enlarged, and carry to their terminations thicker fluids than when in a healthy state, and sometimes the blood itself.

95. Such an inflammation as is just described, may terminate in resolution, supuration, or mortification. If the extraneous body is early removed, and before the surrounding parts have been raised to any considerable degree of inflammation, which precludes large incisions for its extraction, then it usually terminates in resolution; such a degree of inflammation only remains as is the unavoidable consequence of wounds. In tracing an inflammation from an extraneous substance, I have carried it no further than was consistent with the idea of its being still capable of terminating by resolution. For my present intention is only to give, to the best of my judgment, a true representation of the manner in which inflammations are in general excited.

96. The effects of acrid substances, as the mineral acrids, common caustic, lu-

nar caustic, and others of a similar nature, externally applied, are somewhat different, according to the particular species of acrimony they possess, but chiefly, to the degree of activity with which they are endowed, in irritating, or destroying the soft parts to which they are applied. For, from the very weak condition in which they may be used, to their most concentrated and active state, rubifaction, inflammation, blistering, or even the destruction of the skin and subjacent parts, may be produced. Hence it appears, that acrid substances applied to the skin, occasion an inflammation, proportionable to the degree of irritation thereby excited; and that the above mentioned substances, in their greatest degree of strength, are not only capable of destroying, in a short time, the soft parts to which they are applied, but even, under certain circumstances, of dissolving them; however, their usual effect is similar to that produced by the application of a red hot iron to the skin, from which they have obtained the name of caustics.

97. Our daily practice with Spanish flies in powder, mixed with unctuous ingredients, in form of a cerate or plaster, and applied to the skin, exhibits, in the clear-

est manner, the gradual effects of acrid substances externally applied. Unless in persons who have their skin uncommonly delicate, it is three or four hours after such an application, before the rubifaction takes place, and from the continued irritation of the Spanish flies, gradually increases to a high degree of inflammation. Soon after this, the cuticle is raised in blisters, from the quantity of fluid thrown out by the lymphatic arteries terminating on the surface of the skin; and the ultimate effect in blistering the part, is commonly obtained in ten or twelve hours after the application of the plaster.

98. Heat applied to the body, in any considerable degree above its standard, has effects on the skin and subjacent parts, similar to those of acrid substances. Like them also, its powers of inflaming, or in destroying the soft parts, is always in proportion to the degree of heat, and time of its application.

99. So far was necessary to show the effects of mechanical irritation, and that of acrid substances applied to the skin, in the production of inflammation. But to proceed farther on this subject, or to the consideration of the several ways in which inflammations terminate, so well known

to practical physicians and surgeons, is here unnecessary. It may, however, be remarked, that these artificial inflammations differ, in some respects, from those arising from internal causes. The former are more similar to one another, terminate more readily in resolution, and their consequences are not of such magnitude and danger to the system. Unless where their effects have extended beyond the skin, their similarity is evident. On the removal of the irritating cause, a stop is in general put to the inflammation, especially if proper means are used for destroying, or washing off such parts of the acrid substances as may have insinuated themselves into the pores of the skin. Acrid substances externally applied, are no doubt capable of producing the same fatal effects, either from a destruction of a considerable portion of the soft parts, or when a large surface of the skin is violently inflamed by them. But, where their effects are more circumscribed, and do not proceed further than the production of a few blisters, there is little or no danger; and a temporary inconvenience is in general all that is to be apprehended in such cases. But inflammations arising from internal causes are more dissimilar, as the gout and

erysipelatous inflammations differ from a phlegmon, and this last from an indolent scorbutic inflammation, &c. When an inflammation from an internal cause takes its seat on the surface of the body, the danger and the consequences of it are infinitely less than those which affect the viscera, or internal parts of the body, which are more fatal.

100. Since, from the preceding pars. it is evident, that irritation externally applied uniformly produces inflammation; it is reasonable to suppose that the operations of nature must be similar, when the same or similar disorders are excited from internal causes. For the same effects being observed, which we have known to take place from a particular cause, we must suppose the same, or a similar cause, to have produced them. Such is the difference, however, amongst acrimonious fluids, that some appear to act on the blood-vessels and nerves, and excite an inflammation immediately after they have been secreted from the blood; while others seem to remain in a state of stagnation for some time, before they acquire a sufficient degree of acrimony to produce the same effect.

101. Though I consider every inflam-

mation, from an internal cause, to arise from an acrid matter thrown out from the circulating fluids, yet the quantity is often so small, and of so mild a nature, as to terminate by resolution without injuring the body. But, when the quantity of matter is larger, more acrid, and supposed to be a critical discharge, all attempts to a cure by resolution, or to check such inflammations, are found to be injurious to the system. No physician of judgment ever attempts to stop the progress of the inflammation of the joint in a fit of the gout, in an ardent erysipelatous inflammation, or a large phlegmon; though he may attempt to lessen the symptomatic fever attending these two last cases, by bleeding, and gentle purges, which sometimes have also the effect to lessen the extent of the inflammation.

102. The objection just made to the cure by resolution, can be only applicable to such external inflammations as are above specified. For every internal inflammation being attended with danger, our utmost efforts ought to be used to remove it. This we endeavour to accomplish by the means just mentioned, low diet, and the application of a blistering plaster, opposite to the part inflamed.

This last is one of our most successful remedies in lessening a deep seated inflammation, or in removing it entirely to the blistered part, as shall be more particularly explained in a subsequent paragraph. Venesection, when freely used, is of the greatest benefit towards a cure by resolution; by it the impulse of the blood is proportionably lessened, and the symptomatic fever abated. The other good effects of bleeding in the cure of inflammations are known only by our success; for they are not rightly explained. This evacuation makes a corresponding depletion of the blood-vessels; low diet and purging have the same effect, and if this antiphlogistic regimen is not carried to excess, the action of the absorbents is thereby proportionably increased.

103. But the most powerful means employed by nature in the cure of inflammation by resolution, is absorption. For the mouths of the lymphatics, opening on every surface, and ever active, absorb the superabundant fluid thrown out by the exhalent arteries, whether in a natural or morbid state. But I have supposed a morbid matter from the exhalent arteries, irritating the soft parts, to be the original cause of inflammation, which must cease

on its being carried off by the absorbents. In its passage through the lymphatics, and lymphatic glands, to the subclavian vein, it probably undergoes some change ; and afterwards, in the course of the circulation, its morbid condition is so corrected, as to fit it to be thrown out by the usual emunctories. These powers of the lymphatics are more particularly explained in a separate treatise on Absorption, which I hope to be able to publish in a short time, and to which I must refer for a further elucidation of this subject. It must, however, be remarked, that, in some inflammations of the skin, viscera, and pleura, so great a discharge of the morbid matter is made by the excretory vessels, as contributes to lessen, and often produces an entire resolution of the inflammation. It is the remains of a discharge of this nature with which we find the pleura, lungs, and other viscera, covered after death, as mentioned in par. 90. We must not however, in such cases, suppose the absorbents on these surfaces to be altogether inactive ; but it is the thinner parts of these fluids that is most readily absorbed. The rest, therefore, must acquire a thicker consistency, and as it approaches the nature of coagulable lymph, will, from its

agglutinating quality, prove the cause of those adhesions of the viscera to one another, and to the sides of the cavities of the thorax and abdomen, which so often take place after inflammations.

104. As pain is the most grievous circumstance which attends a regular paroxysm of the gout, and other ardent inflammations, it may not be improper to suggest what, perhaps, are some of the intentions of nature in exciting pain in the cure of diseases. It, in the first place, calls our attention to the seat of the disorder, and to apply such means as experience has taught us to be useful in alleviating the pain, and in the cure of the disease. When the cause is external, the further progress of the inflammation is usually stopped, by removing the irritating or acrid substances.

105. But the greatest benefit derived from pain, excited by inflammation, is a proportionably increased secretion of the morbid matter, which first produced it. By what laws in the economy, this derivation of acrid fluids from the blood, where it must be equally diffused, to the part first inflamed, takes place, I know not, though we are certain of the fact*.

* Sydenham, and others who were afflicted with the gout, have observed, that the more violent the

For this we can imitate ; or rather we can, by the application of a blistering plaster, excite nature to a true representation of it. By this means we often remove deep seated pains, slight inflammations, and lessen those of considerable magnitude, by soliciting the discharge of the morbid matter to the blistered part. Most of the advantages obtained from blisters in fevers, are produced by an evacuation of part of the morbid matter, which, in some fevers of a malignant nature, smells very offensively. We must reason in the same manner on the benefit derived from issues, and setons, in certain diseases ; for nature has a wonderful tendency to throw off acrid fluids by the skin, especially when solicited by art.

106. In confirmation of these observations, it may be remarked, that, when an acrimonious fluid exists in the blood, though the person under that circumstance

inflammation and pain, the shorter and more complete will be the paroxysm, and the longer the succeeding interval. It has also been observed by physicians of practice, that, when the severity of the pain was taken off by opium, the duration of the fit was protracted ; and the same thing is known to take place in the chronic asthma, when opium is daily exhibited. These observations, and the obvious explanation of them, are proofs of the above doctrine.

may enjoy good health, yet, when a severe pain is raised, or a wound inflicted on any part of the body, the bad state of the blood is often discovered by an afflux of morbid humours to the part affected. A considerable bruise or wound in a scrophulous habit, though the person has been apparently free from the disease for many years, usually brings on a return of his former disorder. The erysipelatous inflammations which sometimes follow the application of a blistering plaster, which are different from those raised by the Spanish flies, may, in certain cases, be owing to a peculiarity of constitution in the nerves of the skin. But at other times, this inflammation, and especially when accompanied with small boils and ulcers, must be ascribed to an acrimonious fluid thrown on the part inflamed. In rheumatic constitutions, a return of the disorder is often owing to a strain in the ankle, knee, lumbar vertebrae, or some other joint; the same accidents often produce premature symptoms of the gout. But it is unnecessary to enlarge further on a subject so well known to the practical physician. However, notwithstanding the most frequent cause of fits of the stone may be easily understood from the above remarks, yet, as

it has not hitherto been explained, I think it proper to subjoin the following observations on that subject.

107. A fit of the stone may be occasioned by a catarrh, by sympathy with the primæ viæ, when oppressed with acidity and phlegm, and by the motions of a carriage, or other exercise. But its attack often occurs without any apparent cause, and, on such occasions, an afflux of an acrid fluid on the internal coat and neck of the bladder, is to be suspected. This afflux is solicited by the preternatural irritability of these parts, from the motion of the stone; and the paroxysms are always accompanied with a morbid secretion of mucus, which is conspicuous in the urine. If the fit was occasioned merely by the friction of the stone, it should continue till the stone was extracted; but, after a few days, or weeks, the patient recovers his usual health, or at least a state of ease, in which he can walk, or use other exercise moderately, without much inconvenience. For, as the afflux ceases, the inflammation, and increased irritability depending on it, will likewise cease. The intervals of ease are various in different persons, depending, perhaps, on the strength, or general health of individuals, From

the inflamed state of the internal coat and neck of the bladder, and from so exquisite a sensibility of these parts, that they cannot suffer the smallest quantity of urine to lie on their surfaces, arise those involuntary spasmodic exertions to free the bladder of its contents, in which consists the agonizing part of a fit of the stone. When the intervals between the paroxysms are complete, or when the motion of the stone gives no great uneasiness, we may suppose the coats of the bladder to be sound. But, after a great number of paroxysms, and from the nature and size of the stone, there is no complete interval of ease, the paroxysms return more frequently, continue longer, and are more severe; it is then probable, that the bladder is in a diseased state. This is occasioned by the repeated inflammations in the fits of the stone, during the course of the disease; and always indicates the danger which would attend the operation for the stone in such cases.

108. Although the excretory vessels of the skin, and of the kidneys, are the most usual emunctories, by which the blood is freed from every species of acrimony, yet, in the great variety of acrid fluids generated in the body, there are several, which,

when accumulated to a certain degree, have a tendency to affect a particular part of the body. This is so uniformly the case, that practitioners often judge of the nature of the acrimony, from the parts affected. The *primae viae* and the lungs suffer in a particular manner from the morbid matter in the chin-cough; certain red spots on the skin, accompanied with a fever, and troublesome cough, characterise the measles; the lymphatic glands suffer in the scrophula, the bones in this last disease, and in the rickets; the skin is the chief seat of erysipelatous inflammations; the joints of the arthritic matter; and, were it necessary, similar observations might be made on a variety of other acrid fluids, which affect certain parts of the body, and constitute distinct diseases.

109. But, in what manner these morbid fluids act on the system, so as to produce such symptoms as readily show the nature of the disease, resulting from their action, cannot with certainty be explained. One naturally relinquishes a subject so obscure without bestowing a thought on it, from an impression of the impossibility of tracing nature in so mysterious a process, with any degree of success. Al-

thought in this respect I incline to follow my predecessors, yet I beg leave to refer my readers to what I have said on the nature of different stimuli, and of the variety of constitution of the nerves at their terminations, in different parts of the body, in the four last paragraphs of section 2d of my Observations on the Animal Economy, &c. There it is shown, that the nerves, originally the same in the brain, and perhaps throughout their course, acquire, for their different offices in the economy, a variety of powers and sensibility, corresponding to the structure and organization of the parts in which they terminate.

110. This diversity of sensibility is the most probable cause of the mobility of certain parts of the system, on the application of particular stimuli; while the rest of the body is no otherwise affected, than usually happens from general sympathy. It is from this circumstance, that we must account for the action of morbid stimuli, which appear to be extremely different from one another, each acting in a manner peculiar to itself, or with what is called a specific stimulus, irritating the nerves of a particular part, while the rest are little affected. For, if morbid flu-

ids in circulation are so equally diffused through the whole mass, that every drop of blood contains its exact proportion of them, and certain parts only of the system are thereby affected; then we must suppose this to arise from a specific stimulus, or a particular constitution of nerves in the part affected, or from both these circumstances. It is in this way only, that we can account for the action of various morbid fluids in the production of different diseases. Notwithstanding these remarks, it must be confessed that this subject is far from being exhausted. But, as my intention is to give a general idea of it only, I shall leave the further consideration of critical and morbid discharges to those who may have more time and abilities for such pursuits. My principal intention in introducing this subject was, to offer the best reasons that I could suggest, for the morbid matter which produces the rheumatism and gout, affecting constantly the joints, and especially in the regular paroxysms of this last disorder.

III. Hitherto the greatest attention in my power has been employed to trace the origin of the gout to the effects of the remote causes on the primae viae, and the system in general. Some pains have been

taken to show the generation, and gradual accumulation of the arthritic matter in the habit, until a considerable portion of it is thrown off from the circulating fluids, in the periodical paroxysms of the gout. The manner in which occasional causes operate, in producing fits of the gout, has been explained. From the symptoms which accompany regular paroxysms, the inflammatory disposition of this distemper is made evident. Such proofs are given of the existence of this, and other acrimonious fluids, with their effects, according to the variety or species of the morbid matter affecting the system, as are established by numberless practical observations. Some analogy between the cause of the gout and that of certain nervous, hypochondriac, and hysteric disorders, and the various effects of the arthritic matter in different constitutions, are pointed out. The cause of the numbness in the legs, and other anomalous complaints, previous to a regular fit of the gout, is suggested. In considering the sudden movement of the pain, and inflammation, from the diseased to the sound foot, some light has been thrown on the cause of that extraordinary phenomenon. The pain and inflammation shifting from one part of the

foot to another, until the paroxysm is compleated; the knees, hands, and other joints becoming the seat of gouty inflammation, in advanced stages of the disease, and the origin of swellings on the joints, have been explained. The action of acrid fluids, secreted from the blood, in producing inflammations, is shown to be similar to the action of mechanical violence, of acrid substances applied to the skin, and other soft parts. The powers of the absorbents, and exhalent arteries, in the cure of inflammation by resolution, are exhibited. There are some observations relative to digestion, the effects of ardent spirits, on the utility of pain, and several other particulars, all tending to explain the true nature of the gout, and its cause; but which I forbear to mention in this short analysis of the present subject.

112. How far I have succeeded in my endeavours to satisfy my readers on these several subjects, must be left to others. But, as I prefer the character of being useful, to that of being ingenious; so I would pride myself more on the discovery of an effectual cure for the gout, than on the most approved treatise that could be written on this disease. But, as no such remedy is yet known, our best plan at pre-

sent, for the unfortunate sick, perhaps, is to free the history of this disease, as much as can be done, from the obscurity in which it has hitherto been involved. By this method, which has been here attempted, we shall be led to the use of such medicines and means, as, from the nature of the disorder, seem best suited, either to favour the cure, or to obtain relief to the patient. From a more intimate knowledge of this distemper, we are enabled to adopt or reject such medicines and means, with whose properties we are acquainted, as may have been strongly recommended to our patients on the empirical plan of cure. This circumstance alone is of material advantage, as we can thereby prevent the exhibition of such remedies and applications, as experience has shown to have a tendency to obstruct the natural course of the disorder, which cannot be done with impunity, and seldom without danger. For there is no disease in which greater mischief is done by counteracting nature, than in the gout, as will evidently appear from the following observations on the cure of that disease.

ON THE
CURE OF THE GOUT,

AND

THE MANNER BY WHICH THE MEANS PRO-
POSED PRODUCE THEIR SALUTARY EF-
FECTS.

SECTION II.

113. **T**HERE is no history of a disease, in which the plan of cure is more distinctly pointed out, than in that of the gout: For it has been the uniform opinion of physicians, to which mankind in general have assented, that a full diet and sedentary life, are the remote causes of the acquired gout. It naturally follows, that temperance and exercise, the opposites of the remote causes, must be

the most effectual means in the cure of this distemper. When pursued with perseverance and attention, even in such cases as admit not of a complete cure, they contribute to the general health of the patient, the prolongation of the intervals, and the regularity and mildness of the fits. It, is, however, much to be regretted, that, amongst the great number of examples of this disease, very few are capable of a complete cure. This is chiefly owing to the nature of the disorder, but in a great measure to the neglect of it at its commencement, and the want of resolution in the patients to submit to that regulation of diet and exercise, in which the cure must chiefly consist. By a strict and constant adherence to this plan, I am persuaded that this disease, in many instances might be cured; but, when neglected, I know no medicine that can produce the same effect, notwithstanding the impudent boastings of quacks to the contrary.

114. In the gout there are two principal curative indications; the first is to prevent, as much as possible, the generation of the arthritic matter; and, secondly, to promote the expulsion of it, when generated, by the excretories of the skin,

and the other emunctories. The former is obtained by temperance, the latter by labour and exercise. This is a short representation of facts, but sufficient to give a general idea of the plan of recovery, in all such cases where it can be prosecuted, with propriety and success. For, at certain periods of this disease, after the strength of the constitution has been reduced by a number of paroxysms, and especially if the person is advanced in life, such a plan of cure is far from being admissible; because, the reduction of the diet of such persons, and even of their cordial drink, when taken in moderation, would be to reduce their strength, and render the disorder atonic, which might otherwise continue in regular fits for many years. For it is only at the commencement of this disorder, before any material injury has been done to the constitution, either by repeated paroxysms, or by age advancing, and while the body still retains its usual firmness and aptitude for motion, that we can hope to succeed in the cure of this disease, by a strict regimen of diet and exercise.

115. From the few cures of the gout that have been accomplished, when compared to the great number of cases in

which the disorder has continued during life, an opinion prevails, that it is altogether incurable. This is certainly contrary to experience, in many instances; but it is much to be regretted that such a belief should have become so general, as it discourages the unfortunate patient from the prosecution of the plan of recovery, with that ardour and steadiness which is so necessary to insure success. There are other circumstances which tend greatly to frustrate the best intentions; such as the love of society, so productive of information, improvement, and happiness to mankind. From this source arises a propensity to convivial meetings, which, from the common intercourse of men, can scarcely be avoided. It is only the hermit and the miser, that can resist the temptation to those pleasures and amusements, which are so calculated to extend our knowledge of men, and our friendship with one another. Besides, it seldom happens that the constitution is materially injured by the moderate enjoyment of such societies; it is only the abuse of such pleasures, by too frequent an indulgence in them, that we should guard against, as injurious to the health, and even to the exercise of the mental faculties. For we are no other-

wife apprehensive of the pleasures of the table for a day, than that in delicate constitutions it may occasion some disorder in the stomach, or head-ach next day, provided that temperance is practised for a reasonable time after. The hazard of disease, is from intemperance becoming habitual ; or what is, perhaps, more certain in producing the gout, though slower in its effects, is a full diet, with strong liquors to exhilaration twice a day, with an inactive sedentary life.

116. But the great difficulty we have, in entering on the cure of the gout, is to get rid of those indulgences, which, from a long practice, have become habitual, and of course are given up with pain and reluctance. The valetudinary, as well as the man in health, wishes to avoid singularity, and strives to hide the necessity he is under of paying attention to his health, which subjects him to inconveniences, and sometimes to an increase of his disorder. A great obstruction to our progress in the cure of the gout, arises from the independant situation of most of the persons afflicted with that distemper. They are often men of rank, men in public office, or employed in some of the learned professions ; and a number of others, who, from

the nature of the business in which they are engaged, are obliged to lead a sedentary life, and from their opulence, or easy circumstances, live fully, and much at their ease. The exercise necessary for the cure of the gout can scarcely be effected by such persons, who have been so little in the habit of bodily exertions. Besides, when either the disease has become inveterate, or they are advanced in life, the temperance and exercise, prescribed in the cure of the young and robust, are by no means adviseable in such cases.

117. Another, and perhaps not the least, difficulty we have to encounter in the cure of this distemper, is the too strict regimen prescribed on that account. For as there is no disease that appears in different persons, with a greater or less degree of severity, than the gout; so the regimen prescribed ought likewise to vary, according to the circumstances of the disorder. If the gout is so prevalent in the habit, as in the case of Thomas Wood, miller at Billericay, in the county of Essex, and the patient has fortunately equal strength of constitution, and the same resolution with him, as to persevere in so slender a diet, as a pound and a half of flour pudding twice in the twenty four

hours* ; I believe that the balance between health, and a painful disorder, will be greatly in his favour. But such cases are rare ; and, when they happen, we are seldom successful in them, either because of the want of the qualifications just mentioned, or that advice is not asked, till the disease is advanced so far as to render a complete cure, by such means, impracticable or doubtful. For our success in the cure of the disease by temperance and exercise, will always be in proportion to the distance of time from the first, or second paroxysm, at which this regimen commences.

118. In the cure of the gout, there is a circumstance we ought ever to keep in view, because, on the degree of attention paid to it, our success depends. This is the preservation of the strength of the patient, as far as is in our power, and is consistent with our plan of cure, or of alleviating the disorder. This circumstance should be our guide in the regulation of the diet and exercise, which ought always to be proportioned to the strength of the constitution, and state of the disease.

* Medical Transf. by the College of Physicians, London, Vol. 2. page 259.

Hence must arise a considerable diversity in the regimen prescribed for persons afflicted with the gout.

119. In the young and robust, when the disease is of a mild nature, and of no long standing, meat may be allowed at dinner, provided they eat only of one dish, and abstain from strong liquors. But, when the gout is hereditary, and evidently prevails in the constitution, then a milk and vegetable diet may be necessary to produce the same good effects, by freeing the patient of the paroxysms, or by protracting the intervals, and rendering the disease milder. In constitutions, however, less robust, we must proceed with more caution; for such persons seldom bear well the sudden transition from a full to a spare diet. For the stomach being deprived of part of its usual stimulus, the patient now and then complains of flatulency, sickness, and sometimes of pain in the stomach and bowels. On which account it is found, from experience, more adviseable, to bring the patients by degrees to the diet suited to their particular situation, than to make the change at once from a full to a spare diet. By this way of proceeding, we come gradually to know, how far the diet may be reduced without

injury to the health of the patient, or the reduction of his strength; and, when we have arrived at this knowledge, the most essential part of our plan of recovery is obtained,

120. If the patient has been accustomed to drink wine, or other strong liquors, the same method must be observed in weaning him from them, till water alone comes to be his beverage. Some exceptions may be made to this general rule, when vinous liquors may be given as a cordial, but ought seldom to be permitted as a necessary article at their meals. This may be thought too strict a regimen, but will be found more effectual in the cure or alleviation of the gout, than when strong liquors are drank, though moderately, at their meals. For I am confident that strong liquors, and indolence, have a greater share in the production of this disease, than a meat diet, when accompanied with suitable exercise. For it is well known, that the American Indians, and other savage nations who live by hunting and fishing, have no such disorder; and the ingenious Mr Smellie, in his excellent book on the Philosophy of Natural History, remarks, that, ‘The laplanders drink water, or animal oils, but never taste bread or

‘ salt. They live in a pure air, and have sufficient exercise. Their constitutions are attempered to the coldness of the climate ; and they are remarkable for vigour and longevity. The gout, the stone, the rheumatism, and many other diseases which torture the luxurious in milder climates, are totally unknown to them*.’

121. The exercise prescribed at the commencement of the gout, should vary according to the strength, situation, and diet of the patient. In strong constitutions, it may approach to what we would call labour ; which may be varied according to the inclination, or habit of the person, in particular exercises. Riding and walking, in which may be enjoyed the amusements of fishing and fowling ; and, where the neighbourhood of lakes, or navigable rivers will permit, the rowing a boat, I consider as preferable to most other exercises. But, for the preservation of the strength, the quantity of food should be increased in proportion to the labour. In persons less robust, or more advanced in life, the gentler exercises of billiards, bias bowls, &c. should be for some time

* Philosophy of Natural History, Philadelphia Edit. 8vo. p. 198.

substituted in the place of those just mentioned; and, as the patient gains strength, his exercise may be increased; but ought never to be continued to great weariness or fatigue. The same degree of labour cannot be prescribed for those, who, on account of the prevalence of the gout, are reduced to a milk and vegetable diet; but, when the disorder appears to be diminished, their diet and exercise should be increased.

122. If, from the time the gout has continued in the habit, the number and severity of the paroxysms, or the person's approaching to his 50th year, there is little probability of a complete cure; then our endeavours should be solely confined to render the disease as mild as it can be done with safety, or is consistent with the preservation of the health and strength of the patient, during the intervals. In such cases, meat or fresh fish, may be allowed at dinner, but the patient should be restricted to one dish; with the meat may be taken a moderate quantity of vegetables, and with the fish, pudding. To prevent disorders in the stomach, such articles as are difficult of digestion, and less perspirable than other meats, such as pork, ham, geese, ducks, &c. should be avoided.

123. If the patient has been accustomed to strong liquors, a moderate quantity at his meals should be allowed. But as a regularity in the use of vinous liquors, is apt sometimes to occasion an indulgence in them, which produces debility and indolence, and increases the severity of the disease, it is, in most cases, more advisable to use wine, and spirits, only as a cordial, when particular complaints require them. From the immediate relief that wine and spirits afford, when sickness, faintness, or pain in the stomach and bowels, take place, in gouty constitutions, arises a general belief of their being indispensable at meals. This may be the case with those, in whom a long habit of drinking strong liquors, or when considerable debility, arising from the severity of the disorder, has rendered the frequent repetition of them necessary. But when no such habit has taken place, and the body is firm and active, wine should be used only as a medicine, and not as an article of diet. I am sensible of the imperfection of these general rules, for the regulation of the diet, exercise, and the use of wine, in gouty constitutions; for, in some instances, they cannot be applied; but, in all such cases, it must be left to

the physician to accommodate the regimen to the particular circumstances of his patient.

124. In par. 30. are mentioned the reasons for supposing a diminution of perspiration, to be partly the cause of the accumulation of the arthritic matter ; and here it may be observed, that a free perspiration, kept up by exercise, and other gentle means, contributes to the cure of this distemper. On which account, the regular friction of the whole body, and particularly of the affected limbs, every day, conduces to the general health, and strength of the patient. This practice is extremely salutary ; it gently exhilarates, quickens the circulation, increases the secretion by the skin, and makes up, in some degree, for the want of exercise. Warm cloathing is generally recommended in gouty constitutions, and with propriety ; but it ought not to exceed much their accustomed dress, till age, or the disorder renders it necessary. When flannel waistcoats, or shirts come to be indispensable, on account of a susceptibility of catching cold, which usually arises from confinement or a sedentary life, by shifting them often they feel warmer, and the secretion by the skin is thereby increased.

125. But exercise is the most natural way of promoting this evacuation; and as the greatest benefit is derived from it, it ought to be continued daily, and without intermission during life; for the leaving off an accustomed exercise, is generally followed by an increase of the disorder, and sometimes by the atonic gout, from a retension, and more speedy accumulation of the arthritic matter. When from age, or the disease advancing, and from a stiffness in the joints, the patient becomes incapable of his usual exercise, then, warm bathing properly conducted, is of great service in alleviating the disorder. The good effects of this practice is well known in the city of Bath; where the water, in the king's bath, is, at its source, about 120° warm; but, from the exposure of a large surface, in the bath, it may not exceed 110° or 112° of heat; which, however, has no advantage over simple water, when raised to the same temperature. For the benefit received from heat, and moisture, must be the same, whether from Bath, or simple water raised to the same degree of heat; which not only excites a free, and copious perspiration, during the time the person remains in the bath, but even afterwards

seems to increase their usual perspiration, by the skin, being thereby cleaned and softened. To this method of obviating the bad effects of obstructed perspiration, are to be ascribed the chief advantages of warm bathing, to valetudinarians, in the cure, or alleviation of their diseases. Benefit is likewise, supposed to accrue, from the absorption of water, by the lymphatics; and by a regular course of warm bathing, in gouty constitutions, it is probable, that the arthritic acrimony, accumulated in the habit, is thereby diminished.

126. The long journeys which many of the valetudinarians are obliged to make, before they arrive at Bath, the great temperance, and regularity observed by them while they remain there, and the drinking the Bath water, all contribute to the establishment of their health. The heat of the Bath water, and the quantity of fixed air, with which it is saturated when just drawn from its source, causes it to sit light on the stomach, and enables the patient to drink more of it than he can of simple water, or of the same water after it has lost its heat, and fixed air, by being exposed in open vessels for a short time. The medical virtues of Bath water, com-

pared to simple water, arise from the greater quantity of heat and fixed air it contains; for the rest of its contents can have very little effect in the cure of chronic diseases *.

127. When from the long continuance of intermittents, bilious fevers, or other febrile disorders, caught in damp, or in warm climates, the *primae viae*, and system in general are greatly debilitated, the Bath water to such valetudinarians is of great service. On such occasions, the beneficial effects must be ascribed to the heat of the Bath water, which frees such persons from sickness, and pains in the stomach and bowels, to which they are subject while they continue to drink cold water, or other cold beverage, but leave them as soon as they begin the use of the Bath water. A similar delicacy in the stomach and bowels, but from a different cause, often takes place in gouty constitutions. Persons long afflicted with the gout, can seldom venture on a full draught of cold

* By an analysis I made of the Bath water, many years ago, a pint contains three grains and a half of Glauber salt, six grains and a half of marine salt, and the two and thirtieth part of a grain of iron; which last ingredient, it holds in solution by means of the fixed air.

water without hazard ; but can drink freely of the Bath water directly from the pump, not only with safety, but with pleasure.

128. The regular drinking of the Bath water, has a singular effect in lessening considerably the desire for strong liquors, which enables the sick to bear with ease, that temperance so necessary for their recovery. For persons who resort to Bath, on account of the gout, rheumatism, or such disorders of the stomach and bowels as are just mentioned, have from the preternatural irritability of the system, during the prevalence of their disorders, a heat and thirst beyond what is natural to a healthy state. But as simple water, drank cold, often occasions some uneasiness in the stomach for such valetudinarians, they usually mix with it wine, or some vinous spirit, to obviate that inconvenience, which always has the effect to keep up the febricula and thirst. As soon, however, as they begin to drink the Bath water, their thirst ceases ; and, of course, the desire for their former beverage, likewise abates. Several stomachic persons informed me, that they had usually a return of their complaints in five, or six weeks after their departure from

Bath; which obliged them to return there for relief. It did not occur to them that it was owing to the heat, and fixed air in the Bath water, they chiefly owed their recovery; but were convinced of this truth when by my advice they drank, with the same beneficial effects, Piermount, Selser, or common water saturated with fixed air, and raised to the heat of 120° , by adding to them about a third of boiling water; which is a practice I have recommended in similar cases, with success, ever since the year 1756.

129. It is true, that a free perspiration, kept up by exercise, must be considered as preferable to that obtained by any other means; for, while we are thereby lessening the accumulation of the arthritic matter, the general health and strength of the patient are also obtained. But this precludes not the use of medicines that increase perspiration, when their operation is of a mild nature; for such as raise any considerable disturbance in the primae viae, are not admissible in gouty constitutions. There are however, very few remedies that from their known properties are calculated to alleviate, and not one, that is yet known, deserves the name of a specific in the gout.

130. Remedies that have been supposed useful in diminishing the severity of the disease, were, simple or compound decoctions, or infusions of woods, barks, and leaves, and other parts of vegetables of a pungent aromatic flavour and taste, taken commonly at bed time. Gum guaiac has been used for many years, under a variety of forms, in arthritic disorders; but the most usual prescription is the volatile, or spiritous elixir, from 25 to 50 drops, in some warm spiritous vehicle; and though nauseous, and disagreeable to delicate stomachs, yet from its success, in many cases, it is in general use among practitioners for the anomalous complaints of the irregular gout. While these medicines continue to raise a gentle perspiration, and prove laxative, they abate the severity of the disorder; and especially with those who from their age, debility, and stiffness of the joints, are incapable of much exercise. But as these remedies are in general uncertain in their operation, and often produce little or no effect, they are soon laid aside. For many years, a large draught of an infusion of tansy, taken at bed time, was a favourite remedy for the gout. In a few instances it operated in the manner just mentioned, and was thought to be of

service; but in the greatest number of cases, it having no such effect, was at last considered rather as an innocent than an active medicine.

131. In ancient, as well as in modern times, the long list of simples, known by the name of stomachic bitters, have, in a great variety of formulae, been recommended in the cure of the gout. Their character in this respect has been various, but the success with them has been the same in all ages. In cases of dyspepsia, or want of appetite, which frequently occur, both in the regular, and irregular gouts, infusions of bitters and aromatics in water, in wine, and in ardent spirits, have been used with advantage; a spiritous menstruum is in general preferred in gouty constitutions; but when the patient has not been much accustomed to strong liquors, infusions of them in boiling water are equally efficacious. Those who have been more in the practice of drinking wine, require about a sixth part of brandy to be added to the infusion in water, to make it sit light on the stomach. In most cases, where a spiritous menstruum is wanted, a table spoonful of equal parts of tincture of the bark, and the stomachic elixir of the Edinburgh Dispensatory, in a glass of

water, twice a day, answers very well the intention of stomachic bitters. But the proportion of the stomachic tincture may be varied, from the above, to one fifth of the mixture, according to the pleasure of the prescriber, or taste of the patient.

132. As we have supposed the gout to arise from some defect in the powers of digestion, it is reasonable to imagine, that such medicines as strengthen the primae viae, restore the appetite, and mend the digestion, should counteract the cause of the disorder. But, as we find not, from experience, that stomachic bitters have any remarkable effect in this way, we cannot, therefore, safely depend on them for a cure of this distemper. In debilitated states of the primae viae, they may be taken for some time with benefit; but, when the end is obtained for which they were prescribed, their further use becomes unnecessary, and perhaps hurtful. For, from the observations of others, as well as from my own experience, I incline to believe that the long use of bitters and aromatics is prejudicial to the nerves of the stomach. Besides, it is proper to observe, that, when a part, or the whole of the system, has recovered its former healthful state, no corroborants, however powerful or artfully

applied, can ever increase the strength beyond what is natural to the constitution. But, whether the injury to the *primae viae*, from the long continued use of stomachic bitters, arises from a daily application of an astringent to their nerves, or to what other quality they may in common possess, I know not; though there is little doubt as to the fact. Notwithstanding our ignorance of the precise manner in which they operate, yet we may suppose their operation to be very powerful, when such quantities in substance are taken, as was formerly prescribed of Portland's powder for the cure of the gout. This hazardous remedy usually stops the paroxysm of this distemper, but without acting on the cause of the disease; for, soon after the patients imagine themselves to be cured, they are either seized with the atonic gout, some chronic disorder, become delirious, paralytic, or die suddenly. From all which we may conclude, that Jesuit's bark, and astringent bitters, may be given occasionally as stomachics, but that they are inadmissible as remedies, in the cure of the gout.

133. This last observation is not so applicable to infusions, and tinctures, of stomachic bitters, which are occasionally of

great service, in restoring the strength of the primae viae, as to the same articles in substance. The chief ingredients in Portland's powder are of this kind, and have been praised from almost the commencement of the practice of physic to this day, for the cure of the gout. Formulae of the antidoti antipodagraci of Galen*, and his followers, were common among the ancients; they were similar to one another, consisting chiefly of the same simples, sometimes of four, seldom exceeding seven or eight in number, of which our modern gout powder is nearly a transcript. The principal ingredients were the herbs germander, ground pine, and the lesser centaury; the roots of aristolochia rotunda, and gentian. These taken in equal parts, were reduced to a powder, of which a drachm was to be taken every morning, in a little warm water, for three months; the dose was reduced to two scruples for three months more, and after this to half a drachm, till the year was compleated; then half a drachm was taken every second day, for another year; for this time was thought necessary to complete the cure of the gout. On account of this me-

* Galeni de antidot. lib. 2. cap. 17.

thod of giving these remedies, Caelius Aurelianus, and others who succeeded him, gave them the name of *analia medicamina*, or *medicamenta ad annum*; which were often made up in the form of an electuary with honey.

134. The success of the ancients with this remedy appears to have been nearly the same with what we have experienced in our own time; for it was considered by them both as a useful, and a dangerous medicine. Their greatest success was, when the *antidoti antipodagraci* were administered near the commencement of the disorder, and accompanied with a proper regulation of diet and exercise; which must be the case with every plan of cure.

Principiis obsta, sero medicina paratur,
Cum mala per longas invaluere moras.

Luc.

They, from experience, had observed them to be hazardous remedies after the fifth, or at farthest the seventh year, from the first attack of the disease. Caelius Aurelianus* has told us, and Alexander Trallianus† makes the same observation,

* Morb. chronic. lib. 5. cap. 2.

† Lib. XI.

that a long uninterrupted use of those compositions, was by many condemned as dangerous, and often fatal.

135. These remarks are similar to those that were made by physicians, and the public, a few years ago, after the general use of Portland's powder for the cure of the gout. But their bad effects in all times must, perhaps, be rather ascribed to the injudicious, and indiscriminate use of these powders, than to their want of efficacy, in restoring the strength of the stomach and bowels, which must be considered as a principal circumstance in the cure of the gout. It is an excellent caution given us by the ancients, not to use these powders after the fifth or seventh year from the first attack of the disease, and ought constantly to be observed. For if the disease has made such advancement on the constitution as has induced debility, or such a degree of stiffness in the joints, as to disable them from taking that degree of exercise so necessary for their cure, and preferable to every remedy, then the free use of such a medicine is much to be suspected.

136. In some of our receipts, particularly of our modern gout powder, there are introduced wormwood, bugbane, car-

duus-benedictus, flowers of chamomile, the root of columba, orange peel, and Jesuit's bark. This last was unknown to the ancients; nor have I any great favour for it in such a composition, on account of the bad, and sometimes fatal effects, I have known it to produce in several instances, when taken as a remedy for the gout; perhaps from its superior and permanent astringency, which from long use may injure the nerves of the primae viae. But if, from the knowledge we presume to have acquired of the true nature of this distemper, the advantage to be derived from such remedies, is the strengthening of the nerves of these viscera, then I should apprehend it unnecessary to keep strictly either to the ancient or modern formulae of these medicines. I would incline to follow the ancient simplicity with regard to the number of ingredients; but, these might be selected in such a manner, as to suit particular constitutions better than by keeping to a fixed and invariable formula. For, as physicians of experience seldom keep to the same formula in all cases, even when the intention to be answered by the prescription is the same, the powder may be varied according to circumstances. Some

of the ingredients, thought to be less powerful than the rest, and others disagreeable to the palate, or stomach, of certain patients, may be left out, and some aromatic may be added, to render the composition more agreeable to the taste, and lighter on the stomach.

137. Such a remedy, I am persuaded, might be given occasionally, to strengthen the *primæ viæ* with advantage; for it is only with this view it can be admitted in the cure of the gout. The dose of this medicine should be small; two scruples at most once a day, or one scruple twice a day, nor should its use be continued above two or three weeks at a time. For the large doses of the *annalia medicamina*, and of Portland's powder, and their long continued use, was perhaps the principal cause of their falling into discredit and neglect; for I imagine, that the reputation of those medicines, is now, as much below their real merit, as their first praises were above it. For the mischiefs imputed to these medicines must be considered as a proof of their powers, and that their disgrace was more owing to their having done too much, than their having done too little.

138. These remedies (par. 130.—37.) some years since gave way to flowers of

brimstone, which is certainly more powerful and permanent in its effects as a diaphoretic, and laxative, and of course, promises to be of greater utility in this disorder. The infusion of sulphur in simple water, as was at first recommended, can have very little effect, unless a due proportion of fixed salt is added, to assist the solution of the sulphur. Even this succeeds not so well as a solution of *hepar sulphuris*, made in the common way, in the proportion of thirty grains to a quart of water; which when saturated with fixed air, will be somewhat similar to the water of Aix la Chapelle, and may have nearly the same effects. But the general practice at present, is to give the flowers of brimstone in substance, from half a drachm to a drachm, or more, at bed time, in any form most agreeable to the patient. Though this mineral is not dissolvable in simple water, yet it is acted on by the gastric fluids in the *primae viae*; by them, and our digestive powers, some part of the inflammable principle comes to be volatilized, or adheres more loosely to the vitriolic acid, than before it was taken into the stomach. This appears from the increased foetor of the *faecis alvinae*, and the sulphureous smell

of the perspiration of those who have taken it for some time.

139. The action of this medicine is most apparent by these two emunctories, and as it is mild, though permanent and uniform in its operation, it may be continued for some time with advantage. But as I apprehend the constant use of sulphur to heat the body, more than is consistent with safety, in gouty constitutions, so it is, perhaps, more adviseable to restrict the time of taking it to two, or three weeks, than to intermit a fortnight, when its use may be again reassumed; and to proceed this way alternately, so long as as the patient perceives that he receives advantage from this medicine. During the interval, care should be taken to keep the body open with gentle laxatives, and that which gives the least disturbance to the bowels, should be preferred. Sulphur acts not as specific, by counteracting, or destroying the cause of the disorder, as mercury in the venereal disorder, or sulphur in the itch; but by assisting the expulsion of the arthritic matter, by the skin and intestines. For those who continue to subject themselves to the action of the remote causes, receive little or no advantage from it; while others who persevere

in temperance, and exercise, are benefited by its use.

140. It has frequently happened, that persons subject to the gout, have also been afflicted with the gravel, or stone; and, on account of these last disorders, have been induced to take soap lees, or mild fixed alkali, and sometimes lime-water and soap, for a considerable time, with such an alleviation of symptoms, as gave hopes of their solvent power; though for the most part no such effect took place. But in most of these cases, it being observed, that the intervals between the paroxysms of the gout, were protracted, an opinion has arisen, that these medicines are likewise useful in moderating the severity of this disease. This opinion, being founded on experience, cannot well be disputed; but as their action in producing these good effects, will be better understood, after considering their manner of operating, in alleviating the complaints of calculous patients, I shall subjoin the following observations on that subject.

141. Independent of the general sympathy of the stomach with the rest of the body, there is a particular sympathy which subsists between it and the urinary passages. This is most remarkable, when

these parts are diseased, or when there is a stone in the kidney, ureter, or bladder. In fits of the stone, the stomach often suffers by consent with the seat of the disease, as appears from a great uneasiness in that viscus, sickness, and vomiting. But, when these sympathetic affections are often repeated, they seldom fail to weaken the stomach, and lessen the powers of digestion. This subjects such patients to collections of phlegm, crudities, and acidity in the primae viae, and, from their action on the nerves of these parts, render the whole system more irritable than usual. In this increased irritability of the body, the seat of the stone, from its diseased state, suffers most remarkably, which subjects such persons to fits of the stone, from very slight causes. Catching cold seldom fails to bring on a fit of the stone, in those who are subject to that disorder; but a more frequent cause of such fits is indigestion, or acidity in the primae viae.

142. By whatever means, therefore, the nerves of the stomach and bowels are strengthened, and the system is rendered less irritable, the fits of the stone will thereby become proportionably less frequent and severe. But, in debilitated states of the stomach and bowels, nothing

contributes more to their recovery, and the restoration of health, than a regular spare diet, neither so low as to induce debility, nor so high as to hazard indigestion. Such is the diet usually prescribed during the use of alkaline solutions, and the other supposed solvents for the stone; but it is not always, of itself, sufficient to prevent indigestion and acidity in the stomachs of calculous patients. This arises chiefly from a weakness in the digestive organs, but partly from such persons being precluded from exercise, which so often exasperates their disorder.

143. In a few days, however, after the commencement of the alkaline remedy, the acid in the stomach is neutralized, the quantity of phlegm lessened, and by the continued use of that medicine the farther generation of it is prevented. This soon produces a remarkable change in the state of the primae viae; for being freed from those hurtful stimuli, which kept up a constant debility, and retarded digestion, the nerves of these parts gradually recover their natural strength. Besides, the morbid irritability of the urinary passages, in so far as it depended on sympathy with the stomach and bowels, oppressed with acidity and phlegm, is considerably less-

fened, or entirely removed. By perfevering in eating moderately of one difh at dinner, efpecially of boiled meat, avoiding acids, and acefcent articles of diet, and continuing the regular ufe of the lixivium twice a-day, the nephritic fymptoms leffen by degrees, till they at laft, in fome cafes, almoft totally difappear. For it is not for fome weeks, that thefe happy effects are diftinctly perceived, becaufe it requires that time, and often a longer period of freedom from irritation, before the *primae viae*, and urinary paffages, can recover from their former ftate of difeafed irritability.

144. But the nephritic complaints no fooner abate, than the patient begins to conceive hopes of the folvent power of the lixivium, or other alkaline remedies, ufed by him, and recommended as infallible in the cure of the ftone. This delufion feems perfectly natural, fince patients have been brought from the miferable ftate of not being able to walk for a quarter of an hour, without fuffering greatly from the motion of the ftone, to ride on horfeback, to bear the motion of a carriage, and other exercifes, for a much longer time, with little or no inconvenience. Yet it has been found, that

these very patients, deceived into a belief of their cure, have in a month or two, after having left off their remedy, and strict regimen of diet, fallen into the same wretched situation they were in before the use of their famous specific. For, when those persons have had the courage to submit to the operation for the stone, or have died of the disease, and the stones were extracted, they have always been found entire, and untouched by the medicine, which was once thought to have dissolved them.

145. I cannot refuse the authority of Dr. Whyte, and some others of reputation and credit in their profession, for the solvent power of lime-water on the stone. But these instances are exceedingly rare, depending much on the nature of the calculi themselves; for in this, as in some natural productions, the mode of concretion, or chrySTALLIZATION, as it may be called, is varied in different specimens of the same substance, where their chemical principles are the same. Indeed, most of the human calculi are so compacted, and defended with a quantity of animal glue, or by some other cause, as not to be affected by the powers of lime water, soap, or soap lees; because they

are so altered, and in so diluted a state, by the time they arrive at the ureter, as to have little or no effect on the calculi. We must, therefore, look for the relief afforded to calculous patients using these remedies, rather from the above circumstances, than from any solvent powers possessed by them.

146. From these observations, on the manner in which alkaline remedies act, in alleviating the complaints of persons afflicted with the gravel, or stone, it is easy to perceive, that their beneficial effects, in mitigating the severity of the gout, must be derived from the same source. For, as this last disorder arises chiefly from a defect in the functions of the primae viae, it is always accompanied with a proportionable debility of these parts. This subjects persons afflicted with the gout, to indigestion, collections of phlegm, acidity in the stomach and bowels, which produce, in different persons, a variety of complaints. These are generally removed by a gentle emetic, or by draughts of warm water alone, to favour their expulsion. As the debility in the primae viae, however, still subsists, they are liable to returns of the same com-

plaints. But, soon after the patient commences the use of an alkaline remedy, for the cure of the gout, the morbid symptoms, arising from a collection of phlegm, acid, or other crudities in the alimentary canal, gradually disappear. By persevering in the use of this medicine and diet, as prescribed for calculous patients, their effects will be nearly the same. For a freedom from indigestion, and complaints in the stomach, for a considerable time has a wonderful effect in restoring, not only the health and strength of the *primae viae*, but of the whole body. The digestion being more complete than formerly, the quantity of arthritic matter generated will be thereby diminished; but the additional strength acquired by the patient is sufficient of itself to protract the intervals, and to moderate the severity of the paroxysms.

147. Although lixivial salts, lime water, &c. act not as a specific on the cause of the gout; and it rarely happens that we meet with a stone so soft, and of so loose a texture, as to yield to their solvent powers; yet, from the relief they afford, we must consider them as useful remedies, in both diseases. Amongst the alkaline remedies used in calculous cases

soap-lees is possessed of the strongest solvent power ; and although, for the reasons mentioned, it has very little effect on the stone, yet its efficacy as a solvent is not only evident on tough phlegm in the primæ viæ, but on the coagulable lymph of the blood. This is the reason why persons, who have been long in the use of taking the above medicine, become thin, emaciated, and sometimes hectic, from the prevalence of an alkali in the habit *. On which account, when necessary to give the lixivium for a considerable time, it is more adviseable to give a solution of the mild alkali in water, saturated with fixed air, as prescribed by the late ingenious Doctor Dobson. This is perhaps less powerful as a solvent, but more salutary

* A quack medicine, sold under the name of Adams's Solvent, appears to be composed of equal parts of soap lees, of the ordinary strength, and simple water ; to every ounce measure of this mixture is added about fifty drops of laudanum, of which an adult is directed to take two tea-spoonfuls twice a-day, in a tumbler of water. The opiate will no doubt have its proper effect in alleviating, or removing slight Nephritic symptoms ; but, when no such complaint exists, the habitual use of laudanum is improper ; for it ought not to be given constantly with a view to prevent pain, but only occasionally to remove it.

in its effects, not only from the antiseptic power of the fixed air, but from the agreeable stimulus it affords to the stomach. As it is considerably milder than the caustic lixivium, so it may be taken much longer with advantage; but, when its use is protracted beyond a month, the quantity of alkali should perhaps be lessened.

148. But the advantages derived from the use of lixivial salts, are not confined to that morbid condition of the alimentary canal, which so often attends persons affected with the gout, or stone, but are extended to similarly diseased states of the primæ viæ, from whatever source they originate. These may be occasioned by intemperance, improper diet, the ordinary causes of hypochondriac and nervous disorders, and by the remote causes of the gout, though that disease is not apparent in the habit. They are often the consequence of certain fevers, especially those wherein the stomach and bowels have been particularly affected. In all such cases of debility in the primæ viæ, there are large secretions of phlegm, the powers of digestion are diminished, and an acetous fermentation, from the digestion of their food, subjects the pa-

tients to acidity in the stomach. While these symptoms continue, with their usual effects, general debility, and disorder of the system, a recovery is not to be expected. This may be effected by gentle emetics, laxatives, stomachic bitters, Jesuits' bark, preparations of iron, &c. But in obstinate cases, from a scruple to half a drachm of fixed salt in five or six ounces of water, and saturated with fixed air, taken twice or thrice a-day, will in general be found an efficacious remedy.

149. Issues have been recommended in the cure of the gout, and, although their salutary effects, in some cases, have been evident, yet their success has not been so effectual as to bring them into general use. It happens, not unfrequently, that scorbutic sores or ulcers make their appearance, commonly in the legs, in persons towards their fiftieth year, subject to regular attacks of the gout. When the discharge from them is large, it has been observed that the intervals between the fits have been considerably protracted, and in some instances the gout has been almost entirely removed. If, in a gouty habit, a sore is occasioned by a bruise, or other accident, and heals readily by the usual means, soon after its

commencement, no bad consequence is to be suspected; but, if the sore proves obstinate, puts on the appearance of a scorbutic ulcer, and is of long standing, the cure is attended with hazard to the constitution, unless issues are put in both legs, to supply the discharge from the ulcer. If this precaution is neglected, and the gout returns not as formerly, the usual consequences are dropsy, asthma, some other chronic disorder, or the atonic gout, under its various forms. For, when nature has been interrupted in her operations for a considerable time, these are seldom renewed with the same salutary effects. Those swellings in the joints which usually take place in persons who have had annual, or more frequent returns of fits of the gout, (par. 35.) often suppurate, and discharge a quantity of matter. If the discharge is large, and the sore keeps open for a considerable time, or is succeeded by the suppuration of another tumour, the interval is rendered thereby more complete, and the succeeding paroxysm less severe. When these suppurations succeed one another in different parts of the feet, hands, &c. as, in some inveterate cases, I have known them to do for many years, they contribute

considerably in preventing the approach of the atonic gout even to extreme old age.

150. These observations prove the utility of natural drains of morbid humours, in gouty constitutions. From them we may conclude similar advantages to be derived from artificial issues, and proportioned to the discharge occasioned by them. The necessity, however, of continuing issues for life, is a circumstance extremely disagreeable to most patients; and, as they are rather calculated to alleviate symptoms, than to cure the disease, they are seldom advised by the physician with this last intention. Besides, issues, which are usually placed below the knee, become sometimes so painful as to prevent the walking, or riding, with that freedom and perseverance so necessary for the attainment and preservation of health. Notwithstanding these objections, issues must be considered, in certain situations, as extremely useful in removing particular complaints of distress and danger.

151. It would be tiresome and unprofitable to the reader, and unpleasant to myself, were I to proceed further with observations on a variety of other medicines,

which have been, at different times recommended to the public for the cure of the gout. For the nature of the disorder, and the qualities of the remedy, being known, it cannot be difficult to determine on the propriety or impropriety of its use in this disease. Notwithstanding the obligations we lie under to the empirics of eminence in their profession, the high encomiums bestowed on the efficacy of many of their medicines, in the cure of particular diseases, has at all times been a great obstruction to our advancement in the medical art. The indiscreet zeal with which they endeavour to raise, and support the character of their famous specific often carries them, in their account of its virtues, greatly beyond its real merit. When such medicines are recommended by men of reputation in their profession, and the proofs given of their powers in the cure of certain diseases are narrated with apparent fidelity and candour, we are scarcely allowed to doubt of their salutary effects. But, when these medicines come to be used, under the more discerning eye of dispassionate men, in the same disorders for which they were recommended, and the success being greatly inferior to their ex-

pectations, they often, from disappointment, throw them aside as useless. As this is the usual effect of extravagant commendations, it is reasonable to suppose, that useful remedies have been neglected, because they did not answer the exaggerated accounts given of their efficacy.

152. The principal object in the study of medicine is to expiscate, as far as can be done, the causes of diseases. But, from the great difficulty of tracing nature, we, in this respect, remain extremely ignorant with regard to the origin of certain disorders. In all such cases, we are obliged to proceed on the empirical plan of cure, by depending on our own, or the experience of others, for the recovery of our patients; sometimes using with success medicines whose operation on the system in the cure of the disease we do not fully comprehend. But when, from the history of the disease, a sedulous attention to the symptoms, and the effects of medicines which either alleviate, or exasperate the disorder, we are so fortunate as to perceive the nature of the cause, we can then proceed in the cure more rationally and consistently. It is by this manner of conducting my inquiries,

I have endeavoured to throw such lights, as were in my power, on the nature and cause of the gout. The operation and effects of those medicines, mentioned in the preceding pars. and which, when properly administered, prolong the intervals, and alleviate the symptoms of the gout, are the best proofs that can be brought in favour of the foregoing doctrine, and which shall be farther illustrated in the sequel.

153. It is much to be regretted, that the credulity of some patients should lead them, from the unmerited high character of certain medicines, to such sanguine expectations of their efficacy, in the cure of this distemper. Their impatience under repeated attacks of the gout, with a strong desire to get free from so severe a disorder, is some apology for their easy faith, and confidence in their specific. Too great a reliance, even on such medicines as have been mentioned, always gives me concern, because the patient is often thereby apt to neglect temperance and exercise, the most efficacious means of cure, or of lessening the severity of the disease. For, notwithstanding the benefit that may be derived from the use of medicines, yet, in so obstinate a dis-

order as the gout, we cannot dispense with the proper regulation of diet and exercise in a plan of cure, or of considerable alleviation of the disorder. But our views can seldom rise so high, as is just mentioned, with probability of success, unless in the first years of the disorder. For, after the joints becomes stiff and are increased in size, from the long continuance of the disease, perhaps no complete cure should be attempted or expected. Having carefully attended to the operation and effects of those medicines and means, used during the intervals, for the cure of the gout, or alleviation of its symptoms, and which in many cases, have been attended with success; we shall next proceed to the consideration of some of those remedies, and applications, employed by practitioners, for mitigating the severity of a paroxysm.

154. From what has been advanced in the preceding pages, a fit of the gout must be considered as an excitement of the system, to discharge the arthritic matter, generated in the body during the preceding interval. The more completely, therefore, this is effected, the longer and more perfect will be the succeeding interval. To assist nature in this saluta-

ry process by keeping up the strength of the system, patients are advised during the paroxysm to a light diet of meat, with a moderate quantity of wine, or other strong liquors, twice a day. But our surest guide is the patient's ordinary way of living, in respect to diet and wine, which admits not of much alteration during a fit of the gout. When the secretion of the arthritic matter on the joints is considerable, it is sometimes attended with a small degree of fever, which afterwards, for a day or two, becomes symptomatic from the severity of the pain. In such situations there is a general disorder through the body, an impatience of the mind, with want of appetite. On account of this last circumstance, and to guard against the stomach being oppressed with food, no meat should be allowed; pudding or panada should constitute the principal part of their diet, though their usual quantity of wine may be continued.

155. But the advice of the physician is seldom wanted during the progress of a fit of the gout; for the critical discharge of the arthritic matter, with the consequent inflammation and pain, having taken place, warmth and ease are the most

approved means to promote the completion of the fit. The great point here is to procure a plentiful perspiration in the feet, the parts which nature seems to have chosen for conveying off the gouty matter, accumulated in the habit during the preceding interval. This is commonly attempted by several folds of flannel; but a practice introduced in London, some years since, and which I have followed with success, is greatly preferable to the usual method of wrapping up the feet in flannel alone.

156. As soon as a fit, or the symptoms of an approaching fit appear, the patient is directed to draw on each foot three or four socks, made of the finest and softest wool, commonly sold under the name of Welsh flannel; over them a pair of short hose or bootikens of oiled silk, neatly laced up, and drawn as close as possible round the ankle, to prevent the escape of the moisture, arising from the copious perspiration of the feet. After the bootikens have been neatly applied, one, or two more socks are to be drawn over each, and, to cover the whole, a pair of soft woolly Shetland stockings.

157. By this means, the feet are constantly exposed to the fomentation of a

warm moisture, retained by the bootikens, which increases the perspiration proportionably. This is so considerable, as to oblige the patient to remove the whole coverings twice a day, on account of the great quantity of moisture in the socks, under the oiled silk hose. For, when this is not the case, and the socks are found dry, we must suppose the bootikens to have cracked, and leaked, or that they have not been applied sufficiently close at the ancle. As both feet are wrapped up in the same way, it is proper to observe, that the transpiration of the sound foot, is thought to contribute as much to the recovery of the patient, as that of the foot affected. When, by the proper use of these flannels and bootikens, the patient has kept his feet in a constant perspiration night and day, it has been remarked, that the fit is not only thereby shortened, but that the disease becomes afterwards milder. This probably arises from a more complete discharge of the arthritic matter, than from the ordinary method of treating this disease. They have sometimes been of great service, even when there were no gouty pains in the feet, or other joints, by relieving the patient from pain and flatulency in the

stomach and bowels, low spirits, and other complaints proceeding from the arthritic matter in the habit *; of which the following, amongst many instances that might be given, may serve as an example.

158. An unmarried lady, about 56 years of age, healthy, and of a good constitution, became subject to a lumbago about the year 1787. In the beginning of winter 1788, this complaint became more severe than before, and it was observed to alternate with pains in her bowels, so that she never suffered much in both places at the same time. As she had, from time to time, sharp shooting pains in the ball of the great toe, and in other parts of her feet, though of no long continuance, her friends had little hesitation in pronouncing her disorder to be an irregular gout; knowing her father to have been afflicted with regular paroxysms of that distemper. An inter-

* In some hysterical and hypochondriac patients, who have sometimes complained of a great coldness in their feet, at other times of a burning heat in these parts, the use of socks and bootikens has been of great service, not only in removing these particular complaints, but in restoring the general health of the patient.

val of ease succeeded to these complaints, but they returned now and then with more or less severity, till May 1790, when she was seized with a fixed pain in her left side, above the false ribs, and soon afterwards with a cough. This was rather a dull, than an acute pain, unless in violent fits of coughing, but it continued without intermission, though with different degrees of severity. She could lie in the night with tolerable ease on the left, but not on the right side. This last position disturbed her respiration a little, and increased the frequency of her cough, as is usual in similar disorders.

159. Under an aggravation of these complaints, I was called to visit her on the 12th of December. She gave me the history of her disorder, when I found her pulse to be about 90 beats in a minute. At night a blistering plaster was applied over the seat of the pain, and she was directed to take a pectoral pill twice a day for her cough. This was compounded of a drachm of the pilulae stomachicae of the Edinburgh Dispensatory, and eight grains of the extractum thebaicum divided into sixteen pills, which is a common prescription of mine for one in simi-

lar complaints, or for a cough from a catarrh. I prefer this formula to the extract alone, as it keeps the body open, which is a material circumstance on such occasions. By the fifteenth, her complaints were alleviated, but not removed; for the pain in her side continued, though less severe; but the cough was nearly as troublesome as before. That evening the socks and bootikens were applied; but, as she was one of those persons whose feet are brought to perspire with difficulty, the moisture in the socks, on the mornings of the 16th and 17th, was found to be only moderate; but she was sensible of relief from their use. By a more careful application of the bootikens on the evening of the 17th, on unlacing the bootikens next morning, the socks were found quite wet. This was the only night on which the perspiration appeared to have been very considerable; but I allege that the quantity of moisture in the socks, in the subsequent application of them, was in proportion to the degree of attention paid to the lacing of the bootikens, and shutting them at the ankle. Though the perspiration in the feet, from the 18th, was less than usually accompanies these

applications, yet, from the warm moisture in which they were involved, the heat was rather pleasant than disagreeable. The benefit derived from this practice was every day so evident, that it was continued to the third or fourth of January, by which time the pain in the left side was scarcely felt, the cough was considerably alleviated, and she could sleep on both sides with great ease. Before the end of the month, the cough had left her entirely; and though, for some time, she felt a slight dull pain in the original seat of the disorder, yet it gradually decreased, and went off with the warm weather in the spring. The same complaints, but in a less degree, returned in November last, and were removed by a similar practice.

160. These good effects are certainly owing to the copious perspiration in the feet, and are often experienced in a few hours after the foot-socks and bootkens are applied. In the irregular gout, when the patient is not prevented by pain, the walking about the house in large cloth shoes over the socks and bootkens is of service; and this covering to the feet should be kept up, while the symptoms continue for which they were employed.

Even when the fit of the gout is apparently gone, if the socks and bootikens, are used during the night, till the patient is able to walk abroad in his usual way, it is of great service in lessening and carrying off the irregular symptoms of this disease. This may have the appearance of nursing the gout, which I by no means recommend; for, from observation, I am confident, that, as soon as the pain will permit the patient to put his foot on the ground, the more he walks in the house, or abroad in good weather, provided his feet are kept sufficiently warm, the sooner he gets free from his complaints. Of the great number of proofs that might be brought in confirmation of the salutary effects of this practise, I shall recite only one from Van Swieten, who says,

‘ Vidi hominem, saltatoriae artis magis-
‘ trum, qui bis in anno podagra fati-
‘ acriter infestabatur, et per viginti ac
‘ ultra annos nullam in articulis rigidita-
‘ tem expertus fuit: Numerosae enim
‘ familiae ut victum compararet, simul
‘ ac aliquam saltem dolorum remissionem
‘ sentiebat, mox lecto exhibat, et, quan-
‘ tum poterat, incedebat, dumque hoc
‘ quotidie tentabat, citius liberabatur.
‘ Generosa autem haec molimina diffici-

‘ *lius impetrantur ab illis, qui laute et molliter vivere consueverunt.* Vol 4. 4^{to}. p. 323.’ It is unnecessary to mention the necessity of easy shoes for persons afflicted with the gout; though I wish to observe that the soles of most of those which I have seen in the possession of gouty persons, are too thick, stiff, and heavy. But the best I ever met with were from Sweden, made of seal skin, the sole soft and pliable to the foot, and were lined with sheep skin with the wool on; they, of course, were light and very warm.

161. When extreme pain, or want of rest, calls for the aid of an opiate, the patient, from experience, commonly regulates his dose. This, however, ought seldom to be permitted; for, from an eager desire to be released from pain, the patient is too apt to increase the quantity of this inestimable remedy, beyond what is consistent with the nature of the disorder, or to continue its use too long. The most frequent occasion for medical assistance is on account of some sympathetic affection of the stomach and bowels, urinary passages, lungs, &c. and as the attack is commonly sudden and alarming in its appearance, the advice of the phy-

lician is at such times speedily required. These complaints may be excited by indigestion, the ceasing of the pain in the joint, the general mobility of the system, or preternatural irritability of the part affected.

162. When it appears that acidity, bile, phlegm, or indigestion is the cause of the disorder, the speediest relief is procured by draughts of warm water, to which a small quantity of spirits of hartshorn, or mustard flower, may be added, to assist the expulsion of them by vomiting. If this method is found insufficient, a proper quantity of tincture of ipicacuhan should be given to obtain the effect proposed; which is preferable on such occasions to tartar emetic, or other antimonial vomits. But, after their operation, an opiate is in general of great service, and commonly secures the patient from a return of the complaint.

163. The ceasing of the pain indicates some impediment to the secretion of the arthritic matter, and that the fit of the gout is rendered thereby incomplete. At such times, to procure immediate relief, warm wine, or brandy and water, with spices, amongst which ginger in powder to the quantity of a tea

spoonful or two, is not the least effectual, are usually given with benefit. In such cases, I have never permitted my patients to drink such large quantities of wine, or ardent spirits, as I understand has been given to others. Some practitioners seem even to vaunt in the number of bottles of strong wine, and in the quantity of ardent spirits, they permitted their patients to take in the course of 24 hours, for such complaints as are mentioned in par. 161. But I have always considered the giving of strong liquors to inebriation as a bad practice, as it induces debility and languor, soon after their effects begin to cease. In all obstinate cases, opium properly administered is the most effectual means of relief. But as this is only palliating till nature throws out part of the arthritic matter by the skin, kidneys, or otherwise, but more particularly by renewing the pain in the joint, our endeavours should be chiefly directed to this last circumstance. This is often obtained by bathing the feet in warm water, and the application of sinapisms till they raise considerable pain in the part to which they were applied, and afterwards wrapping up the feet in warm flannel, or in the manner mentioned in par. 156.

164. If we succeed not by these means, and the complaint still continues, blistering plasters must be applied to the ancles; in some cases, they are afterwards applied to the thighs, even to the arms, and sometimes to the part affected, with success. The inflammation and pain excited by the Spanish flies appears to solicit the arthritic matter to the parts inflamed, (par. 105.) for the relief in some cases is obtained with the rising of the blisters, though in general it gradually takes place, with the discharge previous to the healing of the blisters. Such sympathetic affections as arise merely from mobility of the system, or of some particular part, are more readily subdued by warm wine, or by an opiate; but, when they prove obstinate, a blistering plaster near the part affected, in general, removes the complaint. These are the principal remedies and applications occasionally used during a fit of the gout, either to procure the expulsion of the arthritic matter, or to remove such painful and alarming symptoms, as sometimes occur during a paroxysm. There are other means employed with the same intention of removing or alleviating a fit of the gout, but more on the empirical plan, and not in

such general use. Most of them are unworthy of our notice, but there are several which merit our attention.

165. To abate the severity of the pain in the joint, which, from the sudden inflammation and distention of the vessels, often rises to a very great height, leeches have been applied with success. Those who have experienced the application of leeches to gouty inflammations, have assured me, that their effect in mitigating the pain was considerable, and that the lameness, and even the fit, was of shorter duration than in former paroxysms. For it is reasonable to suppose, that topical bleeding will lessen the distention of the small arteries, and may even have some effect in soliciting the inflammation to the more external, and less sensible parts. This is in general an application of the patients themselves, from an ardent desire of relief from a deep seated excruciating pain in the joint, and as it is usually succeeded by an abatement of the pain, it is afterwards repeated on similar occasions. The only objection against this practice, is, that, in the awkward application of the leeches, the part affected may be too long, or too much exposed to the cold air; however, this is easily prevented by a skill-

ful and experienced hand in the use of them. But, to illustrate the utility of this practise, it may not be improper to subjoin the following case.

166. A gentleman 30 years of age, with an hereditary disposition to the gout, having in other respects a good constitution, was in the beginning of the year 1768, about three days after he had taken a long walk from the country in hard frost, with tight or new shoes, seized with his first fit of the gout. The inflammation which spread over the ankle and outside of the left foot, extended likewise up the leg, near to the calf, resembling in its appearance an erysipelatous inflammation. The pain was considerable, and the redness and swelling more extensive than is commonly observed in fits of the gout. During a painful illness of three weeks, a small suppuration took place on the outside of the foot, which healed up as the disease declined; but this severe paroxysm left a considerable weakness in that limb for several weeks. This patient was bred a surgeon; as such he practised abroad for several years with reputation. Being a person of observation and of a clear understanding, some credit was given by a physician who attended with me, to the pa-

tient's opinion, that his disorder was not the gout, but an ardent erysipelatous inflammation ; nor was this doubt of theirs removed, till a similar fit seized the right foot, after an interval of about two years. Our patient had this last paroxysm in London, where, in discharging the duty of a civil employment, he has since resided. By a letter from this gentleman, some weeks ago, he informs me, that, from the year 1770 to the year 1779, he had a regular fit of the gout every twelve months, and sometimes oftener, first in one foot and ankle, then in the other ; but it never went higher. During every fit, the pain and inflammation frequently moved from one part to another of the foot. It usually fixed in the heel for two or three days, then moved to the great toe and ankle, for nearly the same time, and afterwards to the other foot, shifting from place to place until the fit was completed. These paroxysms commonly confined him for a month, and the subsequent weakness in his feet and ankles usually continued for an equal space of time.

167. About the year 1779, Mr Robertson, surgeon at Richmond, recommended to him the application of leeches on the first appearance of pain and inflammation,

as a practise in which he had been successful in a great number of arthritic patients. From the too general opinion, that all applications to gouty inflammations were dangerous, the leeches were applied with great reluctance, three to the ball of the great toe, and the same number to the ankle ; by the application of warm cloths they bled freely, and the relief was considerable. This encouraged him to repeat the application of the leeches, as often as a new pain arose in the heel, or other parts of the foot, and always with the same success. By this treatment of the disease, the duration of the paroxysm was shortened, and the subsequent weakness of the limbs was less than in former fits of this disorder ; for, in a week from the commencement of the paroxysm, the patient was able to walk about his house, and in eight days more to go abroad. This plan of recovery was not followed by any bad consequences, and being in every respect greatly preferable to his former method of flannel and patience, he resolved, in all future fits of the gout, to employ the same means for the speedy mitigation of the pain and inflammation, and shortening the time of the paroxysm. He has continued the same practise in every fit of the gout since the

year 1779, and always with the same good effects. He has likewise observed, that the intervals, since he began the use of the leeches, have gradually lengthened, and that he has not had a fit of the gout for these four years past. He besides informs me, that such arthritic patients of his acquaintance, as were prevailed on to apply the leeches, in the manner mentioned, received equal benefit from them. But there were others, who from applying the leeches too sparingly, received little advantage from them; though he never knew that they did any harm. These persons generally took fright on the ceasing of the pain and inflammation, in the part to which the leeches were applied, especially if soon after another part of the foot was afflicted in the same manner, which is a common circumstance in the progress of a fit of the gout, whether leeches are applied or not.

168. This account of the benefit derived from the application of leeches, in abating the inflammation and pain in a fit of the gout, is so favourable, that it is to be regretted this practise has not become more general. A dislike to the use of leeches sometimes arises from an aversion to the sight of these useful reptiles; but is oftener owing to a dread of their obstructing the

natural course of the disorder : For even the sudden relief patients receive from their application, gives an alarm, as if they had that effect, which is not the case. It is owing to these prejudices, that we have so few instances of a complete trial of the utility of leeches in the cure of the gout. For I know no person who has prosecuted this plan of recovery with so steady a perseverance, or with so much success as the above gentleman, who had thereby his fits of the gout rendered much milder and shorter, the intervals were protracted, and he has been free from the gout for these four years. These happy effects ought to remove every objection to the use of leeches, especially as I have further to observe, that though this gentleman, from choice, leads a temperate life, yet he informs me, that, on particular occasions, he has no great stricture on himself, either in regard to his diet or quantity of wine.

169. Warm poultices have likewise been proposed to abate the inflammation and severity of the pain, in a fit of the gout ; and were it possible to keep them in an equal degree of heat, they might, perhaps, answer the intention. But as this is scarcely practicable, and as the application of a

cold poultice would have a dangerous tendency, they ought, on that account, to be rejected. A physician in considerable practice here some years ago, recommended a particular cataplasm, for alleviating the inflammation and pain, in a fit of the gout. It was composed of a pound or a quart of rye meal, two ounces of salt, four ounces of yeast, and as much warm water as to make it into a paste or dough, of a consistence similar to what is sent to the oven*. This is then rolled out to the thickness of half an inch, large enough to cover the sole, toes, and half of the upper part of the foot, to be applied as warm as it can be borne, and renewed every ten or twelve hours, or as often as it becomes dry.

170. My experience in this application goes no farther than one instance, in which it proved successful. This was in the case of a cook in a nobleman's family, who was suddenly seized with the gout, in the night preceding an entertainment, of which he had the chief management. When the above cataplasm was first applied, he was scarcely able to stand at his dresser; in an hour or two he moved about with difficul-

* The water, yeast, and salt, should be mixed before they are added to the meal.

ty, and at last with great ease; and two or three of these applications freed him of the gout for that time. I considered this patient as in a particular situation favourable for such an experiment; for the flagstones in the kitchen being kept warm by the large fires and stoves, there was little danger to be apprehended from the cataplasms becoming cold. Notwithstanding the successful treatment of this patient, which appears to have arisen from a warm fomentation to the feet, I have not continued this practice, being always afraid of such applications becoming cold, and of course dangerous. Besides, as the same good effects are more readily and safely obtained by the foot-socks and bootkins (par. 156.) I have always preferred them to cataplasms, or any other wet application.

171. The access of cold air to gouty inflammations, produces a soothing and pleasant sensation, from an abatement of the heat and pain. The application of cold water is still more powerful in stopping the progress of the inflammation, and when long continued, for the most part carries it off entirely, or renders the fit incomplete. This is a most dangerous practice, because it puts a stop to the critical discharge of the arthritic matter, which is of course retain-

ed in the habit. As this practice, is not always followed immediately by any bad consequence, the patient seeming to escape the painful duration of a fit with impunity, he is encouraged to repeat it in succeeding paroxysms, till it at last becomes fatal. This fact is so generally known, that it is unnecessary to give examples. The bad effects of this method of stopping the natural progress of a fit, is sometimes felt immediately after the bathing of the feet in cold water ; but at other times, two or three weeks, or months elapse, before a delirium, palsy, or sudden death, shows the bad consequences of this noxious practice. The distance of time from the cold bathing at which these dismal effects take place, often leads to a false opinion with regard to the cause of them. But as often as such cases will admit of a clear explanation, it should be given, to prevent others from falling into the same fatal mistake.

172. Cold water, the solution of certain metallic salts, and other cooling astringents, that are known to lessen or obstruct the advancement of inflammations, are usually denominated repellants. This appellation of these substances, gives the idea as if they had the power of producing a retrograde motion in the fluids, and

particularly of the morbid matter exciting the inflammation. When small vessels, conveying in their natural state pellucid fluids, are so distended, in inflamed parts, as to be filled with red blood, they, on the cause of the inflammation being removed, will return to their former size. In this recovery to their natural diameters, in which they may be assisted by astringents, the red blood will be pushed back into larger branches, and so far a retrograde motion must be admitted, but no farther, to my knowledge or observation. But this concerns not the acrid matter exciting the inflammation, which appears to be secreted from the blood, by the exhalent arteries opening on surfaces, and when once secreted, cannot be thrown back into the same vessels. It may indeed be absorbed, as it certainly is in a greater or less quantity, in every inflammation; for the lymphatics are the most powerful agents in terminating inflammations by resolution*. These considerations have induced me,

* It is easy to imagine, that the office of the lymphatics may sometimes be suspended by compressure, in inflammations tending to suppuration, or from the acrid quality of the matter to be absorbed.

for many years, to reject every idea of a retrograde motion in the morbid matter exciting inflammation. For the same reason I have disused the term *repellant*, applied to the remedies used in the cure of inflammation, as improper, on account of its leading to a false notion of the manner in which these remedies act in producing their effects.

173. The operation, therefore, of those remedies that are known to assist in the diminution or cure of inflammation, remains to be explained. This most probably depends on the astringent and cooling qualities they in common possess, which, from their peculiar stimulus, lessens or puts a stop to the morbid secretion, and increases the power of the absorbents. From the view I have taken of the origin of inflammation, this is the only explanation I can suggest, of the manner in which metallic, and other neutral salts, dissolved in water, act, in producing their effects. As these solutions are generally applied cold, it is perhaps to this circumstance chiefly that their virtues are to be attributed. For we know that cold water alone removes slight inflammations in the eyes, and other parts, and that bathing the feet in cold water, carries off an incipient gouty inflammation in these parts.

174. There are some circumstances relative to the secretion and absorption of morbid fluids, that at first sight seem to contradict each other, but from experience and observation, are reconcilable. For many are the chronic, and sometimes dangerous disorders, which result from the retention of acrid fluids in the habit, which, on a complete critical discharge of them, disappear. But, as the lymphatics are always active, it may be asked, why the disorders which arose from the acrid fluids, before they were secreted, return not, in some degree, on part of the same morbid matter being absorbed and again carried into the circulation? This question is not so applicable to critical discharges, by the excretories of the skin, kidneys, or intestines; though, in this last case, some part of the morbid fluids may be absorbed, before the whole can be thrown out of the body. But, when such morbid fluids are thrown on the surfaces of muscular fibres, small vessels, cellular substance, or other soft parts of the body, a greater or less portion of these fluids must be absorbed. The quantity of the acrid matter taken up by the lymphatics will correspond with the manner in which the inflammations, thereby excited, terminate, and according to the greater or less depth of the seat of the inflammation. For,

when the inflammation terminates by resolution, a greater quantity will be absorbed than when it ends in suppuration, or mortification. When superficial, some part of the morbid matter may be carried off by the excretories of the skin, or by those terminating on the surface of the viscus inflamed; but, if the inflammation is deep seated, and ends by resolution, then the whole of the morbid matter is carried off by absorption.

175. But it is a surprising circumstance, that, in every inflammation, more or less of a morbid matter, after it has been secreted, is carried again into the circulation, seemingly with impunity. For those disorders are not reproduced, that were excited by it before it was secreted, or during the existence of that salutary effort of nature to throw it out of the circulation. It is true, that in some diseases, when the quantity taken up by the lymphatics is considerable, it has alarming consequences, as in the small-pox and measles, of a malignant kind, it produces what we call the secondary fever, which is sometimes fatal. But, when these disorders are of a mild sort, even when convulsions and other alarming symptoms have preceded the eruption, and the number of pustules is

considerable, the absorption goes on without any apparent bad consequence. These observations, however, are not so applicable to inflammations accompanied with proper fever, as to those accompanied with symptomatic fever only. Neither do I assert, in this last case, that, when the quantity of matter absorbed is considerable, or remarkably acrid, it is harmless, because, in such instances, we frequently experience its deleterious and sometimes fatal effects. All I wish here to represent is, that, when the quantity of matter absorbed is not great, or very acrid, the disturbance it occasions in the habit is much less than might be expected. For, in ordinary inflammations ending in resolution, or even in suppurations of a moderate size, where the absorption must in some cases be considerable, no remarkably bad consequence is observed. But in erysipelatous inflammations, and that of the gout, where the morbid matter is more acrid, some symptoms, similar to those which preceded the inflammation, sometimes recur during the recovery of the patient.

176. To these observations it may be objected, that the minutest portion of the matter of the small pox, measles, or other febrile, infectious disorders, are capable of

communicating the same diseases to others, that existed in the person from whom they were taken, and of course that they retain their original acrimony. But this must be understood to concern their infectious power only, and not the acrimony they in common possess with other noxious fluids, not of a febrile origin. For we ascribe the secondary fever, after an unfavourable sort of the small-pox, to the quantity of purulent matter absorbed, and not to its infectious quality; because, in general, no such fever succeeds to the milder kinds. In a subject so obscure, perhaps, no complete explanation can be given; but till such is presented to us, I shall offer, with diffidence, what at present occurs to me on that head.

177. In every critical inflammation, we are not to suppose that the whole of the morbid matter generated in the body is thrown on the inflamed part, some portion of it escapes by the skin, kidneys, and other excretories. This is evident from the perspiration, and turbid urine towards the end of rheumatic, and gouty inflammations. These evacuations are in common with other critical discharges, and lessen the quantity proportionably of the morbid matter in the habit. The matter absorbed

probably undergoes some alteration, in its course through the lymphatics and lymphatic glands, in its passage to the subclavian vein. But it most likely suffers a still greater change in the course of the circulation, which may fit it more effectually to be thrown out of the body by the usual emunctories. Besides, the custom of nature to a particular stimulus, may go a great way to its being borne for some time, without any apparent inconvenience.

178. The number of uncommon cases, and some of them rather of a marvellous kind, that are in our medical records, and from which we can draw no useful conclusion, is very great. This may arise from our ignorance of the manner in which nature acts, on being particularly affected, our not knowing the cause of the disease, and sometimes from a false representation of facts. In general, the cases of marvel, more calculated to astonish than instruct, may be placed with these last, to be forgotten, because no useful inference can be drawn from them. I mean not to draw any disbelief on those cases, however uncommon in their appearance, that are given to us with fidelity and candour; this would be to oppose truth, which must always be attended with discredit. For cases of an ex-

traordinary nature, and accompanied with singular circumstances, will sometimes occur, which, on account of our ignorance of certain operations in the animal body, admit not of any satisfactory explanation. In conducting the cure on such occasions, we are obliged to become empirics, having nothing but experience for our guide. But, when we are so fortunate as to acquire some knowledge of the cause, then several circumstances in the history of the disease, that were involved in obscurity, become more intelligible. After this we become more regular, can account for our practice, explain the operations of medicines, and can give some satisfactory reasons for the success of certain remedies used by empirics in the cure of the disorder. In confirmation of this last observation, there is a remarkable case, and quackish cure, of the gout, given us by the late Dr. David Clerk, in his ingenious treatise on the arthritis anomala and true gout. Although the method observed by the Doctor's patient to free himself from a fit of the gout, cannot in general be practised, or recommended; yet, as it will serve to illustrate some part of the foregoing doctrine, concerning the cause and cure of the gout, I shall transcribe it in the Doctor's own words.

179. ‘ William Richardson, footman to
‘ a lady of quality, naturally a strong
‘ man, and now aged fifty five, was seized
‘ with the gout about twenty years ago.
‘ For the first eight or nine years, he had
‘ a fit once every year in the spring, which
‘ used to last above a month. After that,
‘ he was told by somebody, that he might
‘ free himself of the gout, if he would, at
‘ its first appearance, eat one, or more salt
‘ herrings at bed time by way of supper,
‘ and taste no other food, or drink, that
‘ night: That one herring would cure a
‘ slight fit; but that, if the fit was very se-
‘ vere, it would require two or three; that
‘ this should be continued for three nights
‘ successively, if the gout should not be
‘ entirely gone before that time: And
‘ that it was necessary to take the herrings
‘ straight from the pickle, without wash-
‘ ing them, and to roast them. He ac-
‘ cordingly followed the prescription, and
‘ the first time he was seized with the
‘ gout, that he might make sure of suc-
‘ cess, he eat three whole herrings at bed-
‘ time, after the manner prescribed, and
‘ next morning was so well, as to be able
‘ to go abroad about his business; nor did
‘ he stand in need of a second night of the
‘ cure at that time. Every year since, he

‘ has followed the same method, eating
‘ three herrings at bed time, when the fit
‘ attacked him ; and, when he did it at
‘ the beginning of the fit, he was always
‘ well next day ; but, if he allowed the fit
‘ to go on for some days, it obliged him
‘ to have recourse to the herrings, for three
‘ nights running ; however, he was sure
‘ of being well in three days at most.
‘ The nights on which he took the reme-
‘ dy, he wrapped his feet in flannel, and
‘ they sweated. As the distress for want
‘ of drink was excessive during the night,
‘ he used to chew some hay or straw, with
‘ a view to lessen the violence of his thirst.
‘ Ever since he began this method of cure,
‘ he has had very good health through the
‘ rest of the year, except the first year.
‘ For, having been much hurt by a fall
‘ from a tree that year, viz. in summer
‘ 1750, he lost much of his strength, of
‘ his sight, and of his memory ; but, by
‘ the use of some medicines and a seton in
‘ his neck, he was perfectly recovered be-
‘ fore the time of the gout’s returning
‘ upon him next spring. This present year,
‘ his health has been very good, though
‘ he had no fit of the gout last spring as
‘ usual, which is the first time he has miss-
‘ ed it these twenty years. I never knew

‘ above one, or two other people who tried this method of cure; but, as they had not fortitude enough to withstand the violence of the thirst, and were obliged to quench it with drink in the night, it did not answer*.’

180. Neither Dr. Clerk, nor Dr. Whyte, who made a report on Dr. Clerk’s paper to the Philosophical Society, both men of learning, genius, observation, and in considerable practice, attempted to account for the remarkable effects of the salt herrings in the above case. Nor could an explanation be given, on any theory of the gout I have yet seen; but, from the nature and cause of this distemper, as stated in this and the preceding section, I apprehend it will be clearly understood.

181. The wrapping up the feet in flannel, is no more than experience has taught, to defend the tender inflamed parts from the friction of the bed cloaths, and to increase the perspiration, which assists in shortening the duration of the paroxysm. But a fit of the gout, which formerly continued for a month, being carried off in ten or twelve hours, must be ascribed sole-

* *Essays and observations phys. and lit. of Edin.* vol. 3. page 462.

ly to the herrings, or rather to the salt they contained. The thirst which this patient suffered in the night, must have been very great. For no condiment used in diet, is so powerful in exciting that disagreeable sensation as sea salt, as shall be shown more particularly in a future treatise on Absorption. But it must be remarked, that thirst is the criterion of the increased action of the lymphatics, and the exertion of their powers must be measured, by the degree of thirst which attends their action. Hence we may safely conclude, that, after a supper of three salt herrings from the pickle, unwashed, and broiled, without being permitted to drink till next day, the absorption of secreted fluids must have been considerable. It was during that period of suffering from excessive thirst, that I suppose the arthritic matter secreted, and about to produce a painful gouty inflammation, was greedily absorbed by the lymphatics, to be mixed again with the circulating fluids. The consequence of this absorption of the arthritic matter, was a freedom from the gout next day, provided this extraordinary method of cure was practised at the commencement of the fit. But, if it was delayed to the second or third day after the attack of the

disorder, then the repetition of this singular remedy was necessary, even to the third night. For the increased action of the lymphatics for one night, was not sufficient for the complete absorption of the arthritic matter, increased in quantity by time, and pain. This supposition appears to be proved by another experiment; for for those men who eat broiled herrings with the same view, but quenched their thirst with drink during the night, were not cured, because the powers of the lymphatics were chiefly exerted in the absorption of a large quantity of drink, taken into the stomach.

182. From the representation given of the Atonic Gout, in paragraphs 62, 63, 73, 74, and in other parts of this treatise, it appears unnecessary to enlarge on the management of those who labour under this afflicting state of the disease. In this last period of the gout, accompanied with great debility and languor of mind and body, with all the effects of an accumulated acrimony in the habit, we must consider the disorder as incurable. In such cases, the skill of the physician reaches no further than to alleviate pain, and the anomalous complaints incident to this stage of the disease, and by such means as are men-

tioned in paragraph 62. The intervals of freedom from complaint are protracted, and the disorder in general mitigated, by a proper regulation of diet, with their accustomed quantity of wine, or other strong liquors, and by prompting them to as much exercise as their debilitated state will permit them to take. With the same view, issues, and in some cases, setons, are used with advantage; but on a sudden and severe attack of some disorder, threatening danger, more immediate relief is obtained by blisters. As such persons are more subject to indigestion, flatulency, and costiveness, than formerly, some stomachic laxative medicine, of a gentle operation, should be at hand to obviate these complaints. When acidity, or phlegm, are prevalent in the primae viae, the *aqua mephitica alcalina* of Dobson, as formerly mentioned, is of service. The rubbing the whole body every day, and particularly the stiff joints, with a flannel or flesh brush, supplies in some degree the want of proper exercise, and it is on that account of great use (par. 124). If debility does not preclude the patient from the use of the warm bath, it is of benefit in some cases, though it ought not to be repeated above once a week. This is to promote the perspiration; and,

for the same reason, warm cloathing, particularly to the feet and legs, ought to be recommended.

183. In the preceding paragraphs on the cure of the gout, I have endeavoured to point out the manner in which the several remedies, used with success in this disease, produce their salutary effects. In treating of this part of my subject, it appears, that the operation of the several means and medicines mentioned, assist us, almost in every instance, in explaining the nature and cause of this distemper. If this observation is well founded, it is the strongest proof that can be given of the truth of the preceding doctrine. But, as the view that is taken of this disorder in general, and the explanations that are given of the symptoms that precede, and succeed a paroxysm; of the immediate cause of a fit, the inflammation that accompanies it, and the operation of particular remedies, are new, I offer them to the public, as I ought, with distrust and diffidence. Some observations made, in the first part of this treatise, on other diseases, were carried no further than to elucidate the doctrine I have endeavoured to establish on the nature and cause of the gout; the principal point I had in view. For the same reason, in treat-

ing of the operation of certain medicines, found to be useful in the cure, or alleviation of this disease, I have carried my examination of their beneficial effects to other disorders. This was done in considering the contents and virtues of Bath waters; in examining the properties of lixivial salts, and in pointing out the manner by which they produce their salutary effects, not only in the gout, but in the stone. If I have attempted to give reasons for the morbid effects that follow the retention of acrid fluids, and their less noxious qualities when secreted and afterwards absorbed, it was with the same design of elucidating my subject. This will likewise appear in a variety of other explanations I have been obliged to attempt, before I could proceed with any satisfaction to myself. But these seeming digressions give the appearance of an irregularity to this treatise, scarcely to be avoided, and which I hope will be excused, on account of the difficulties that attended the inquiries in which I have been engaged.

F I N I S.

